

# A Study of the Maxillae with Regard to Cheir Blood and Cymph Supply.

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By John Bethune Stein, M.D.

Professor of Physiology and Histology, New York College of Dentistry. Professor of Physiology, Veterinary Department, New York University.

The object of this paper is to review, as briefly as possible, some trite questions on the lymph and lymphatics, which will clear our way to a better understanding of the relation of the blood to the tissues, and to present some original photomicrographs of the lymphatics which illustrate interesting phases seen in studying these vessels.

Outside the walls of the blood capillaries, in the spaces (lacunæ, interstices) between the walls of the capillaries, and the cells and intercellular tissue, and between the cells themselves, there exists a colorless fluid, closely resembling the blood plasma which is called lymph, or tissue juice. The lymph surrounds every cell. All the tissues of the body obtain their nutrient substances from it and excrete their waste products into it. Moses made the statement, "The life is in the blood," and through experimentation John Hunter proved its accuracy. The blood is an internal medium, a circulating reservoir, and bears the same



relations to the elementary organisms, the cells of the body, that the external medium, the world bears to the organism.

It is in the blood capillaries that the business of the blood is performed, the so-called interchange between the blood and tissue. It is in the region of these small vessels that an interchange of material takes place, between the blood and the lymph in the lymph spaces on the one hand, and between the lymph in the lymph spaces and the tissues

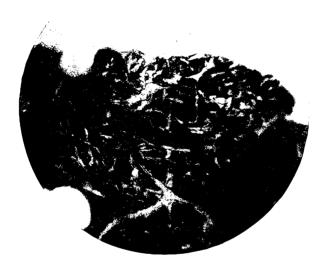


Fig. 162.

of the body on the other. There is a double stream, one from the cells to the blood, the other from the blood to the cells. Oxygen and nutrients pass into the lymph from the blood, whereas carbon dioxide and other catabolites return from the lymph to the blood. Leucocytes and at times erythrocytes pass through the capillary wall into the lymph.

The lymph not only streams from the lymph spaces on one side to the tissues, and to the blood capillaries on the other, but, there is a third stream, from the lymph spaces to the lymph capillaries, to the lymphatic vessels and lymphatic ducts: these latter vessels pour their contents into the blood at the place where these two ducts open into the blood vascular system. The lymph in this so-called third stream



carries the materials which have come from the blood (excess of pabulum, etc.) which are not used by the tissue, and such materials from the tissue (waste materials, etc.) which have not passed directly from the lymph spaces through the wall of the capillaries into the blood. It must be remembered that the products of metabolism in the tissues are not necessarily waste which must be excreted by the cells into the lymph, and

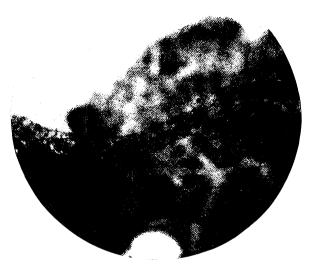


Fig. 163.

thence pass into the plasma of the blood, either through the capillary wall, or by the longer route, by way of the lymphatic capillaries, vessels and ducts, and in that way enter the venous blood, and then be excreted from the body as soon as possible; but there are other products of cellular activity which serve some ulterior office in the body, which make their way into the blood but are not excreted.

It is also to be remembered that along the course of the lymphatic vessels which have walls consisting of three coats, and thus closely resemble veins in structure (although the muscular coat resembles somewhat the middle coat of an artery), and into which the lymph capillaries open, are interpolated masses of adenoid tissue, the so-called lymph glands, or more properly called lymph nodes or ganglia. The lymphatic





Fig. 164.

vessels which enter the lymph node are known as vasa afferentia, while those which issue from it are called vasa efferentia. The lymphatics of the lower extremities, the organs in the pelvis and abdominal cavity, the left side of the thorax and left lung, the left upper extremity and the left side of the head and neck, join the thoracic duct, which opens into the venous system at the junction of the left subclavian vein with the internal juglar, so that most of the lymph along with the chyle is poured into the venous system at this spot. The remaining portion of the lymph is collected from the right side of the thorax, right lung, right upper extremity and right side of the head and neck and is collected by the right lymphatic duct which opens into the venous system at the junction of the right subclavian vein with the right internal jugular.





Fig. 165.

The lymphatic system is really an addendum of the blood vascular system, more properly its venous portion. In the *American Journal of Anatomy*, 1901-1902, Vol. I, Dr. Florence R. Eabin describes the development of the lymphatic system from a bud from the vein wall, and shows that the lymphatic endothelium has its origin from the endothelium of the blood vascular system.

The formation, possibly secretion, of the lymph is a complex which takes place without interruption. We try to explain the formation of the lymph and the double stream of the same in opposite directions from lymph space through the wall of the blood capillary, and again the single stream from the lymph space, through the wall of the lymph capillary, by laws governing filtration, diffusion and osmosis or by a so-called selective cellular activity on the part of the endothelium which constitute the walls of these vessels.

<sup>165</sup> March





Fig. 166.

The lymph should be looked upon as a primary fluid and not altogether as a transudation from the blood, for the lymph has been defined as the transuded plasma of the blood, plus the excess of pabulum which the tissue can not use, together with the waste of the same.

The composition of the blood and lymph are reciprocally modified, as long as life lasts, by the exchanges which are continually occurring, sometimes rapid, sometimes slow, through the walls of the capillary blood vessels, which are, as it were, suspended in the lymph. In some cases the proximity of the blood capillary to the tissue, is extremely close and then only a thin layer of lymph separates the two; in other cases, however, as in the tissue of the cornea, in cartilage, in dentin or cementum, the distance between the center of the mass of tissue and the nearest blood capillary is very great, and the interchange between





Fig. 167.

the several parts of the tissue and the nearest blood capillary is effected through a considerable stretch of lymph passages, the so-called saft-kanālchen, lymph canaliculi, lymph spaces or lacunæ.

It is said that a quantity of lymph and chyle, equal to the total volume of the blood, one-half of which is lymph, the other half chyle, is introduced into the blood vascular system by way of the large lymphatic vessels in twenty-four hours.

The weight of the blood is said to be about seven per cent. of the body. Ludwig estimates the weight of the lymph at one-quarter the weight of the body, and Krause estimates the same at one-third. The exact estimation of the amount of lymph in the body is at present impossible, as water must be given the animal to run off the lymph, which in turn rapidly diffuses into the lymph spaces and lymphatics.



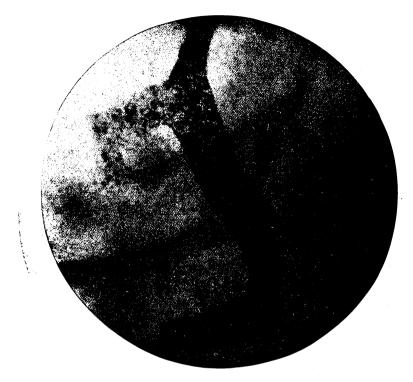


Fig. 168.

J. Munk and Rosenstein estimate, from observations made upon a case of fistula of the thoracic duct in man, that the flow of the lymph may be 50 to 120 c.c. per hour. Six kilograms of lymph have been collected in twenty-four hours from a lymphatic fistula in a woman's thigh. The chemical and physical characters of the lymph we can not discuss here; as already indicated the chemical composition of the lymph closely resembles that of the blood plasma, except that the lymph is poorer in albumen.

The lymph is to be looked upon as a nutritive and respiratory fluid, which, as Michael Foster so well expresses it, acts as a "middle man" between the tissues and the blood in the capillaries, "The life is in the blood," but the tissues through the lymph live on it. It has been ascertained that animads die soon after the loss of a considerable quantity of lymph.

For some time past numerous researches have been made in order to thrown some light on the origin and development of the lymphatics, and



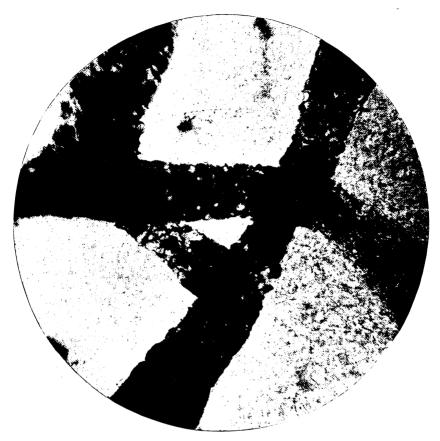


Fig. 169.

to learn the relation of the same to the tissues, more especially the connective tissues. In *The Anatomical Record*, May, 1908, the reader may find nine papers read at the Association of American Anatomists at a "Symposium on the Development and Structure of the Lymphatic System," which contain the more recent bibliography; while, in the *Bulletin* of the Johns Hopkins Hospitals, January, 1903, can be found an extremely interesting and instructive work by Prof. W. G. MacCallum, of Johns Hopkins University, on "The Relations Between the Lymphatics and the Connective Tissue." The ideas embraced and the pictures shown in this above article have found their way into many of the present works



on histology and physiology, and our photomicrographs are attempts to show some different aspects of some truths already demonstrated by this writer.

Numerous star-shaped or polymorphous spaces, connected with one another by means of tubular canals, are found within the supporting sub-



Fig. 170.

stances, between the fibers of the connective tissue and in bone. This system of communicating spaces or lacunæ contain the cells of the tissue. The spaces are not completely filled by the cells, and the part of the space between the cell and the wall of the space, the size of which varies with the motility of the cell is known as the lymph space or secretory space. Adjacent spaces intercommunicate whereby the lymph which fills them passes from space to space and finally reaches the lymphatics. It is through these same spaces the leucocyte migrates, and hence the name



wandering cell in contradistinction to those cells which permanently occupy these spaces, the so-called fixed connective cell or in bone the bone cell or corpuscle.

Figs. 162 and 163 are pictures of optical sections. Fig. 162 shows the cell spaces in the ground substance of arcolar connective tissue



Fig. 171.

(subcutaneous) of a fetal pig. The ground substance has been stained with nitrate of silver. In Fig. 163 we have changed the focus, thereby bringing into view a lymph capillary, which lies in a plane other than that of the lymph spaces seen in Fig. 162. If we carefully compare these two optical sections we will obtain an excellent composite picture of the relationship of the lymph capillaries to the lymph spaces.

In Figs. 162 and 163 the lymph capillary was injected with silver

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nitrate, some of the fluid, due to too deep injection and the fact that the specimen was taken from near the region of the puncture, stained the ground substance of the corium and the underlying subcutaneous tissue.

It has been generally held that the lymph capillaries originate in the tissue spaces and open toward the periphery, and that the tissue spaces may be lined here and there by endothelial cells. In fact, the spaces are looked upon as the radicles of the lymphatic system. According to this view the lymph would be drained out of the tissues by the lymph capillaries which communicate freely with the spaces surrounding the cellular elements, and the wandering cells could pass freely into the lymph capillaries through the porous openings in the walls of these vessels.

The other view, and the one which our pictures prove is correct, is that the lymph capillaries are closed on all sides. See Figs, 164, 165, 166, 167. This view is supported by Teichmann, Frey, Neumann, Ranvier and MacCallum. In Stricker's Human and Comparative Histology, page 305, on "The Lymphatic System," by F. V. Recklinghausen, the following sentence can be found: "It was found also that in injected preparations the injection tightly filled the capillaries of the chyle and lymphatic vessels without the escape of any of it into the surrounding tissues; and hence it was considered that the assumption was perfectly justified, that these vessels were as completely enclosed by an investing membrane as the blood vessels themselves." (Teichmann, Frey.)

The specimens shown in Figs. 164, 165, 166, 167 were obtained from the skin of recently killed fetal pigs ranging from 5 to 15 c.m. in length. A one per cent. solution of silver nitrate was injected into the translucent true skin within half an hour after death and the animal, in toto, immediately placed in absolute alcohol, or ten per cent. formalin. They were allowed to remain in the alcohol from 12 to 24 hours, during which time they were exposed to diffuse or direct sun light for at least eight hours. After the skin was thoroughly hardened, pieces of the now blackened or browned portions with their surrounding areas were torn from the animal, cleaned and mounted. Our specimens seem to prove that the lymph capillaries could be injected without any of the injected fluid escaping into the surrounding tissues, for the injected mass has, so to speak, ballooned out the lymph capillaries which have been rapidly fixed and hardened by the alcohol and thus maintained their dilated condition and the silver salt in the injected fluid, which was later reduced, blackened the cells or colored them brown.

In all of our specimens, excepting Figs. 162 and 163, the vessels, partly or entirely, appear dark brown or black on a more or less colorless field, for the rich intercellular substance of the corium appears white, the



silver salt not having reached it. In some exceptional cases we could clearly see the place where the vessel ruptured a small irregular granular dark spot in the corium, appearing to start from the vessel, indicating the point. In places, Fig. 166, some of the cells of the vessel wall appeared like brown scales, much stretched by internal pressure and on the verge of being forced away from their adjoining cells, no silver came through as evidenced by the clear area surrounding them.

In Figs, 163, 168, 169, 170 the wall of the lymph capillaries is well shown. The intercellular substance is stained black by the injected silver nitrate and the size of the vessels is much larger than that of blood capillaries. The lymph capillaries, as shown in Figs. 164, 165, 166, 167, form networks and exhibit dilatations, more especially at their points of division. The radicles of the lymph capillaries and blind tubes are clearly demonstrated in the above specimens.

We present in Fig. 171 one of the larger lymph capillaries which has a constriction near the center; at this point there is said to be the valve like annular septum formed of a double layer of cells. At the constriction the outline of the cells is distinct; while scattered over the vessel in the intensely stained cement substance are to be noted numerous small and large black dots, these are the so-called stigmata and stomata. These dots can also be seen in Figs 163, 168, 169, and especially well in 170. In Fig. 170 apparent rings are to be observed, filled, or partly filled, with a brownish granular substance. MacCallum states that injections of Berlin-blue, following the silver injection, show no tendency to pass through these rings, nor do injections of silver nitrate following injections of Berlin-blue show any special tendency to form these dots at places where the fluid has already passed through the wall. Whether these stomata, stigmata and rings are widenings or accumulations of the cement substance is not known. Their significance is at present unknown and difficult to explain.

I am indebted to Mr. John L. Peters for assisting me in preparing and photographing the above specimens. The work was done at the Laboratory of Physiology and Histology of the New York College of Dentistry.



## The Use of a Cartar Solvent in the Creatment of Pyorrhea Alveolaris.

By Joseph Head, M.D., D.D.S., of Philadelphia.

Whether pyorrhea alveolaris is primarily a systemic or local disease, every practitioner who has had any measure of success in its treatment, admits that the first essential in its course is the complete removal of the tartar scales from the roots of the afflicted teeth. Many careful practitioners through extensive experiments declare that the complete removal of the tartar from beneath the gum and the perfect smoothing of the root within the pocket, is all that is necessary for a cure, claiming that if perfect healing of the pocket does not occur, it is solely because the tartar has not been thoroughly removed.

Up to the present time dentists have depended solely upon instrumentation for the removal of this tartar. With single rooted teeth this was not so difficult, but where the tartar and pus pocket had extended within the bifurcation of roots or around the tips of roots, effective instrumentation so as to completely remove the tartar without scarring the roots, has been almost impossible. Such teeth have been considered hopelessly beyond the reach of treatment, but with the discovery of the therapeutic possibilities of a solution of hydrogen ammonium fluoride, an encouraging percentage of these apparently hopeless teeth have been restored to comfortable usefulness. The discovery of a tartar softener and solvent that will not at the same time injure the enamel and cementum of the tooth is perhaps of sufficient importance to make a history of the discovery of interest.

## History of the Discovery.

During a period of four years the author had been experimenting with various acids in reference to their relative speed of tooth decalcification. In working with the water solutions of carbonic, lactic,

acetic, valeric, butyric, and in fact all the acids discoverable in the mouth, he found that solutions of from one part in one hundred to one part in twenty thousand would speedily and certainly attack the substance of the enamel. He was experimenting on the speed with which a cement film around an inlay would disintegrate and was much discouraged to observe that in all the water solutions of the weak acids, the tooth enamel would disintegrate much more rapidly than the cement. Afterward with saliva solutions the result proved different, but that is a side issue.

One evening as he was leaving the office he dropped a tooth covered with tartar into a 48 per cent. solution of hydrofluoric acid just to see



how much of the tooth would be undissolved in the morning; for one thing seemed certain, if carbonic acid or citric or lactic acid could readily cut the tooth, hydrofluoric acid would simply annihilate it. On the following morning contrary to all expectation, it was found that the tooth was unharmed and the tartar alone had been disintegrated to a soft pulpy mass. Repeated tests were made with split teeth and with perfect teeth until it was conclusively proved that while hydrofluoric acid would soften the dentin, it had no effect upon the tooth enamel nor upon cementum, and this was the more strange inasmuch as of all the acids tested-weak and strong, organic or inorganic-hydrofluoric acid, the one acid theoretically the most powerful in dissolving lime salts, proved to be the only one unable to decompose the enamel or cementum molecule, while it vigorously attacked the tartar which was composed of practically the same fundamental calcium salts. Analogous reactions in chemistry, however, are not lacking. Charcoal, that is, carbon, at a comparatively low heat freely turns to carbon dioxid, while graphite, which is also carbon, will not be so changed at any but the most intense heat, and then but slightly, if at all.

Having discovered the important fact that hydrofluoric acid would dissolve tartar, without in any way attacking the enamel or cementum, the next step was to modify its action so as to preserve its power of dissolving the tartar and at the same time restrain its caustic and irritating action on the soft tissues of the mouth. The long course of experimentation required to work this out need not be described, nor the accompanying burns received in the process, commented upon. Suffice it to say that the acid salt of ammonium fluoride was at last found to accomplish all that is to be desired. A solution of this salt made as hereafter described, was found to have the power to soften large lumps of tartar so that after one or two applications of the solution they could readily be removed with the scaler, and any microscopic scales were found to be absolutely dissolved, leaving the surface of the treated root smooth and in a receptive condition for the reattachment of the gum. Teeth loosened, where there appeared no irritating tartar in the pockets, also steadily grew firmer and more comfortable under the semi-weekly applications of this solution. When injected into fistulas, the fistulas rapidly healed as the lime salts in the dead bone were rapidly dissolved and the bone cells stimulated to rapidly rebuild the infected area.

Mode of Making the Solution.

The method by which the solution was first made was as follows: Hydrofluoric acid was first neutralized with carbonate of ammonia. This was then filtered. This solution was then evaporated to

one-half its bulk, filled up to its original volume with the acid and once

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more evaporated to one-half its bulk. The resulting liquor was the therapeutic agent spoken of. The evaporation had to be carried on between the temperature of 90 degrees to 105 degrees F., and the method was found applicable to very small quantities only, as in larger bulk the chemical reaction caused an uneven loss of the ammonia and acid, making the final solution either inert or too caustic.

Many manufacturing chemists refused to make it, denying their ability to produce a standard therapeutic solution; but at last the Baker & Adamson Chemical Company, of Easton, were approached and they, with their special apparatus and long experience with the acid in question, found that they were able to produce the standard therapeutic solution at will in any quantity.

Those who have used this bifluoride solution find that their success in the treatment of pyorrhea alveolaris is greatly increased and that mouths which are only moderately affected heal up rapidly and permanently. The bifluoride solution can be allowed to dry on the skin without harmful effect, and yet it will etch glass, forming a rough, frost-like surface. This is a very valuable agent for porcelain inlay workers, making it unnecessary to have hydrofluoric acid about the office, and those who have experienced the appalling septic effect of a hydrofluoric acid burn will consider this in itself no small benefit.

## Method of Using.

The bifluoride solution when placed in a fistula or in a pyorrhea pocket will only cause a healthy gum stimulation in addition to its power of dissolving calcium salts, but if this solution is allowed

to escape into the mouth and dry on the mucous membrane, it makes a burn as bad as that caused by carbolic acid. This latter accident, however, can only occur through gross carelessness, for if the solution is wiped off of the mucous membrane before the expiration of two minutes, no harmful results will occur. The solution should be applied to the fistula or pocket with a rubber syringe with a platinum point. It should always be injected, never applied on cotton packing.

In applying the solution the tartar should first be scaled from the root as much as is feasible with scalers, then the gum should be protected on each side of the tooth with napkins or cotton and the pocket or pockets filled full. The excess solution should then be carefully wiped dry and new cotton or napkin applied, to avoid the possibility of any of the solution having crept up on the gum or lip by capillary attraction. At the end of two minutes the mouth should be rinsed with water, and when the application has been made to the back teeth, the throat also might be gargled. The applications may be made once a week or twice a week, not oftener. At the end of the first day after the application the



gum and tooth will be sore; at the end of the second day it will be more sore; at the end of the third day the gum will be quite well, and on the fourth day a new application can be made.

After a week or two sensitive teeth tend to lose their sensibility to mastication and thermal shocks. The patient will say his mouth feels better. Many pockets heal permanently, and all can be alleviated except when the root has become absolutely necrotic. The bifluoride solution has been in use by its discoverer for two or three years, and he feels that while of itself it will not cure all cases of pyorrhea, properly and carefully used it will largely increase the comfort of patients so afflicted and will multiply the number of absolute cures.

#### The Influence of Mouth Breathing on the height of the Palate.

By L. TH. Schleurholts Boerma, Utrecht, Holland.

In dental practice we often meet with patients who have an elevated palate and a compressed alveolar arch. Not seldom the conditions indicate that these persons have been forced in their youth to mouth breathing by some cause, as, e. g., adenoid vegetations. The pressure of the buccal muscles, favored by the absence of the tongue pressure inside, is generally accepted as the active force which causes the alteration in the shape of the alveolar process.

Some authorities indicate as the active force upon the palate a positive pressure of air in the mouth, produced by the passage of air through the mouth. (Quotation of Talbot by Dr. Patterson and Dr. Frederick McKay, page 266, ITEMS OF INTEREST, 1905.)

It seems to me more plausible that it is the absence of the negative pressure in the mouth by which the deformation of the palatal curve is favored. Normally there is in the closed mouth a negative pressure of about 2-4 m.m. Hg. (experimentally stated by Professor Donders), so that during the night and a great part of the day there is in the nasal cavities a positive pressure on the palate of 3 m.m. Hg. upon an average. This force is absent in persons with mouth breathing, where the pressure of the air on the nose and mouth side of the palate is equal to one atmosphere.

On account of the absence of the tongue pressure against the upper teeth and the alveolar process, the muscles of the face can compress the alveolar arch and elevate the palate, while the absence of the positive pressure in the nasal cavities makes this elevating more easy.



# Some Suggestions on the Management of Cases of Malocclusion Associated with Mouth Breathing.

By MILTON T. WATSON, Detroit.

Read before the American Society of Orthodontists, at Washington, D. C.

The management of cases of malocclusion associated with a pronounced lack of development in the nasal spaces has, in the past, caused me considerable anxiety. This was especially true in cases of Class II, Division I, and in cases of Class I, where the anterior teeth occupy a position quite similar to that in which they are found in Class II, Division I. The chief reason for this dissatisfaction has been because the patient again became a mouth breather as soon as the retaining appliances were adjusted. The two chief factors in this continued mouth breathing are "habit" and actual lack of nasal capacity. If these conditions are not corrected during the orthodontic treatment, the result will be a permanently lessened breathing capacity, and, of course, an unsatisfactory occlusion of the teeth.

The detail of treatment and retention, as I shall outline it, was planned with two purposes in mind. The first is to overcome the "habit" of mouth breathing so far as it may be a factor, and, the second, to bring about a development of the nasal capacity by compelling the nose to perform its normal function during the correction of malocclusion and the long period of retention which follows.

I was, long since, forced to the conclusion that it is only by the com-



bined efforts of the rhinologist and orthodontist that even moderate success can be attained in dealing with patients whose internal face is underdeveloped to the extent of materially lessening the nasal spaces, as well as producing marked malocclusion of the teeth. Very often in these cases after the rhinologist has overcome everything of a pathological nature within his field, the nasal spaces are still insufficient for respiratory purposes; and at this point he is practically helpless—aside, possibly, from such benefit as may be gained by putting the patient on breathing exercises. It is the place, however, where our greatest usefulness begins, especially if the patient be young.

### Advantages of Slow Creatment.

The orthodontic treatment should, of course, be taken up as early as possible, and in the usual way, using the ordinary appliances, together with the intermaxillary elastics, as outlined by Dr. Angle.

You have no doubt all noticed that while patients of the type under discussion are wearing these intermaxillary elastics, they soon become able to breathe entirely through the nose, and, of course, this restored function will aid materially in bringing about a development of that organ. The widening of the dental arch, if that be necessary, and the mesio-distal shifting of the occlusion should, in my judgment, be carried on very slowly. The first advantage of this slow treatment is that a mild form of stimulation of the parts, which are influenced by orthodontic interference, is kept up for a much longer time than would be true if the treatment were carried on rapidly, as it might easily be. The tendency of this long continued stimulation to bring about a renewal of the latent developmental activity is certainly a direct blow at the very root of the evil, and is worthy, I believe, of our serious consideration. The very slow shifting of the mesio-distal occlusion is desirable, not simply because of the prolonged period of stimulation, but chiefly because the long continued wearing of the intermaxillary elastics, of just sufficient strength to gradually shift the occlusion, will keep the mouth closed, unless the patient intentionally resists it, which he will not do unless compelled to do so in order to breathe.

You will observe that I have suggested nothing new in the method of treatment; simply a change in regard to the length of time to be consumed, which I believe to be a matter of the utmost importance. The child whose nasal capacity—after rhinological treatment—is still below normal, will be able to breathe through the nose a part of the time, especially while in an upright position, and with the intermaxillary elastics in operation the period of normal respiration is naturally prolonged. We are thus gradually bringing about the normal function of the organ, which, I think we all agree, is essential to its proper development. During



this period the child should be under frequent observation by the rhinologist, so that no pathological conditions may be allowed to interfere in any way with the rapid developmental changes which we have a right to expect.

If a full year is consumed in the correction of cases of this type, where the breathing capacity is markedly restricted, it will be found usually within that time that the child is breathing through his nose continuously, unless suffering from an acute irritation of the nasal mucous It is not to be inferred, however, that a "cure" has been established-and this applies with equal force to the underdeveloped nares and to the malocclusion of the teeth, for, notwithstanding the fact that sufficient development has taken place to allow nasal respiration, yet, when the recumbent position is assumed, the tendency of the increased blood flow to the parts is to lessen the nasal space, and if the mouth readily drops open, as it does while the ordinary retaining appliances are being worn, normal respiration at once ceases. It is for this reason especially that a mild degree of long continued intermaxillary force is suggested, for if this force be nicely gauged it will be easier for the child to breathe through the nose, even though its capacity is slightly restricted, than it will to open the mouth against the constant tendency of the elastics to close it. During the period of active treatment it is sometimes found desirable to have the child wear heavier elastics at night than during the day, in order to gently force normal respiration. and thus to a limited degree prevent the nasal engorgement which would otherwise obstruct the breathing. Whether this is necessary or not is a condition which can be determined only by the careful observation and co-operation of the mother or nurse. In the early treatment the lightest intermaxillary force which will induce closure of the mouth while the child is in an upright position is usually sufficient to move the teeth. though, if it proves not to be, it must be increased slightly—but do not allow yourself any anxiety because the teeth are moving slowly.

After the teeth have been in occlusion for a few weeks it will be found possible to keep them there with an intermaxillary force so slight that the patient is hardly conscious of any pressure at all when the mouth is closed. If you have been fortunate enough to bring about a fair nasal capacity during the slow progress of your treatment, you will find in a few months that during the day the teeth will require no further intermaxillary restraint, and that the patient will breathe normally. A very slight elastic pressure should be used at night, however, and for a two-fold purpose—that of inducing the closure of the mouth during sleep, and, incidentally, to prevent any return of the teeth toward the old position. The wearing of very slight elastics at night can be continued just



as long as it seems desirable to do so, though a time will finally come when they can be dispensed with altogether. It is, however, a matter of wisdom to leave the skeleton form of retaining appliance on the teeth, to afford them a mild degree of support for a considerable time after the elastics are discarded.

## Depression of Incisors Opposed.

I am quite thoroughly convinced of the unwisdom, in cases where the upper incisors are elongated, of attempting to make corrections by depressing them in their sockets, though I recognize fully the

desirability of doing so from a purely esthetic standpoint. The operation itself is one not especially difficult to perform, but I have yet to see a single case where anyone has really succeeded in establishing their permanent retention. The probability of establishing permanent retention after depressing the lower incisors in their sockets is very much greater, though even this is a questionable procedure; it is possible, however, to lower the occlusal plane or level of these teeth by tipping them forward in the line of the arch, which, of course, shortens them in their relation to the other teeth of this arch, and still allows for a permanent and satisfactory retention. In view of the opinions just expressed, it will, of course, be apparent to you that I believe it necessary to elongate the molars and bicuspids in making corrections in cases where the upper and lower incisors are in marked supra-occlusion. Sufficient elongation of the molars can be brought about through the application of the intermaxillary force which is used for the purpose of shifting the occlusion, but, as we all know from many sad experiences, the spur and plane plan of retention will not retain this condition. By bringing about the change in the mesio-distal relations slowly as I have suggested the tendency for the anchor teeth to return to their original occlusal level is not so marked anyway, and when the mesio-distal retention is brought about through the same influence which produced the correction, we can feel perfectly assured that the anchor teeth will not settle down into their sockets, but that the bicuspids will erupt, unaided, to a proper level, and when this has occurred the danger of an undue occlusal contact between the upper and lower incisors is at an end.

If our range of vision did not extend beyond the esthetic considerations involved in our work, it would, perhaps, seem like a needless expenditure of time to carry the orthodontic processes on so slowly, for great improvement was possible under rapid treatment; yet even this would not be entirely true, for with this plan the teeth upon which we depend for anchorage are in a much more stable condition at the end of the period of active treatment, thus being much better able to bear the strain of retention as well as lessening the possible necessity of secondary treat-



ment. The real consideration, however, is not so much ease of retention as it is the elimination of some of the persistent etiological factors and the greater certainty of establishing a permanent occlusion.

Retention.

The unsightly appearance of the regulating appliances makes it desirable for us to change them for others less cumbersome and conspicuous as soon

as the heavy work of moving the teeth is accomplished. Here is where our trouble usually begins, for none of the old retaining appliances with which I am familiar have enabled us to prevent the anchor teeth, which have elongated under treatment, from settling down in their sockets again,

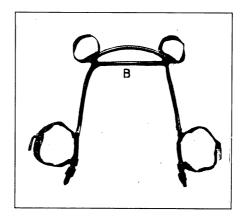


Fig. 1.

thus allowing an undue occlusal contact between the upper and lower incisors. This was especially true in cases where the incisors were greatly elongated in the beginning, with the result that these teeth finally assume a more or less unsatisfactory position. Expressed otherwise, the situation is simply this: Our regulating appliances have enabled us to establish a satisfactory occlusion which we are unable to maintain with our retaining appliances. This condition of things forced me to the conclusion that retaining appliances for this class of cases must be designed so that they might operate upon the same principal as the regulating appliances, but modified in form to meet the requirements of a less severe strain, and to be in themselves less conspicuous. In the description of these appliances I shall not consider the needs of individual anterior teeth which may have been rotated or elongated, for they can be taken care of as they would under ordinary circumstances. The retention as I



shall outline it will deal only with the chief characteristics of the case, which have hitherto caused me much trouble, but which now yield in a manner that has been satisfactory beyond my fondest hopes.

The illustrations which follow show very clearly the nature of the entire appliance, which is no more conspicuous than was the spur and plane or double spur plan of retention, and has the additional advantage of being very much more comfortable to wear and infinitely less liable to destruction from hard usage. These advantages, great as they are, sink to a position of comparative obscurity alongside of the importance of the influence we are thus enabled to exert over the breathing capacity and over certain habits which have always been direct obstacles in our path, as well as being of a nature so serious as to demand correction from a health standpoint. This scheme of retention need never exert a heavier strain on any tooth than just sufficient to antagonize its tendency to return, and with the spurs which most of us have been using to retain cases belonging to Class II there was always more or less undue strain on the anchor teeth during mastication, which kept these anchor teeth in a very unstable condition, while the plan now advocated allows them to become almost, if not quite, as firmly fixed during the period of retention as any of the other teeth.

A careful analysis of the direction of force as applied through the means of retention here shown will convince you, I think, that every direction of force tends only to antagonize the natural evil tendencies which we always encounter in the management of these cases. The six lower anterior teeth are retained as usual by banding the cuspids and uniting these bands with a wire soldered to their lingual surfaces, and running across the surface of the incisors at a point just above their lingual inclination. An arch is then bent to fit against the lingual surfaces of the bicuspids, and to rest against the bands already cemented on the cuspids, fitting snugiy under the wire attached thereto, and bent so that it dips downward and rests in close proximity to the gums at the point marked B, Fig. 1, so that the second wire does not interfere with the proper cleansing of the teeth. The distal ends of this arch are firmly soldered to the molar clamp bands, fitted with the screws pointing distally, and a little hook for the attachment of the intermaxillary elastics is soldered to the buccal surface of these molar bands.

The upper appliance, Fig. 2 A, consists of an arch made from a fine gauge iridio-platinum wire (twenty per cent. iridium) to each side of which a hook of the same material is soldered for the attachment of the intermaxillary elastics. Clamp bands are fitted to the upper first molars, and sections of tubing into which the arch fits accurately are soldered to the buccal surfaces of these bands. In order that the pressure



may be equally distributed this arch should be very accurately fitted, and a little collar soldered to it just in front of the buccal tubing on the anchor band. Instead of this little collar being attached to the arch you can close the distal end of the tube on the clamp band if you choose. The appliances thus described, together with the intermaxillary elastics, which should be tried out carefully until you have ascertained just how much force is required to maintain the occlusion, are all that is needed, except such attention as may be necessary for the proper retention of individual teeth. These appliances answer equally well for either the full division or subdivision of the first division of Class II, and occasionally in cases of Class I, where the upper incisors have been forced into protrusion, as

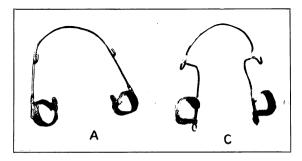


Fig. 2.

we sometimes find them where a lower bicuspid on either side has failed to erupt, or possibly has erupted in lingual occlusion, and where the heavy pressure necessary to carry the lower anterior teeth forward would cause a distal displacement of the anchor teeth unless these teeth were reinforced by the use of intermaxillary elastics. The correction of such cases often demands a lingual movement of the upper incisors and a slight opening of the bite just as is necessary in cases of the first division of Class II.

In cases of the first division of Class II, where considerable widening of the upper arch has been necessary, the upper retaining appliance can sometimes be made as shown in Fig. 2 C, in which the arch passing over the labial surfaces of the incisors and cuspids is bent sharply at right angles so that it passes between the cuspid and first bicuspid, where it is again bent so that it passes distally along the lingual surface of the bicuspid to the molar clamp band to which it is soldered. To this arch, at the point where it is bent to pass between the cuspid and bicuspid, a hook is soldered for the attachment of the elastic bands. This appliance



is, of course, a little more difficult to construct than the simple wire arch passing around the outside of the teeth, but where the requirements of the case are such that an appliance of this kind is needed, it is the least cumbersome and most effective that I know. There are cases, of course, where the occlusal contact of the lower teeth is such that it might be difficult to pass this arch from the buccal to the lingual side, which would make it necessary to use some other means for maintaining the widened condition of the upper arch.

The great advantage of appliances of this sort with patients who happen to live at great distances, as many of our patients do, must be apparent at a glance, for its flexibility is so much greater than the spur and plane arrangement. It also possesses the advantage of enabling us to make most of the needed changes in the position of erupting teeth with out going back to the regulating appliances.

There is another feature of some importance which will especially appeal to those of you who favor removable appliances, namely, that after the teeth have been retained long enough so that no further intermaxillary restraint is required, the arch running around the labial and buccal surface of the upper teeth can be made of a heavier gauge of iridio-platinum wire, to lessen the danger of its becoming bent out of shape by handling, and the patient may be instructed to simply wear this arch at night for the slight influence it will have over the anterior teeth. In dealing with patients whose upper front teeth need a mild degree of retention for a very long period of time, this feature is not without advantage, for we all know how anxious our patients, especially young women, are to have retaining appliances removed, and with this arrangement, which after a certain time is worn only at night, they are quite content. The lower appliance is, of course, not removable, but it is less conspicuous anyway.

Intermaxillary Force in Retention. In adjusting retaining appliances made after this plan, it is possible for us to do the work in several short appointments, which is very much easier for the patient than where one long appointment and a large

amount of work was required, as was always the case when we had to adjust the spur and plane appliances. In my first experience with this plan of retention, which I began to use in a small way about three years ago, I had some fear that the elastic force might not work out satisfactorily as a means of retention, though I, of course, knew that it had in a way been used more or less in the days when cases of the first division of Class II were treated by extracting the first bicuspids and retracting the anterior teeth by the use of the head-gear; but I have now used it

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on a sufficient number of cases, and for a long enough period of time so that I feel certain that these fears were groundless.

In closing I wish to make it clear to you that I recognize fully that the plan I have suggested is simply a very slight modification in the detail of the regular treatment, with which you are all familiar, and for which we are indebted to Drs. Henry A. Baker and Edward H. Angle; and that the retention is also simply another modification of the principle of the Angle regulating appliances combined with the lingual arch on the lower teeth. This must make it quite clear to you that credit for originality is not sought.

#### Discussion of Paper by Dr. Watson.

Dr. Watson has made his paper so clear that it is hardly worth while elaborating it. I want to corroborate his ideas, and say that my experience in

following that plan of treatment has been very satisfactory, and I am convinced the method is far superior to the methods commonly usedeither the occlusal planes for jumping the bite, or strong elastics for iumping the bite quickly and retaining with occlusal spurs. I want to emphasize the point he makes of carrying the treatment along slowly in order to get the benefit of assistance in overcoming mouth-breathing, etc. I believe that in using this plan of treatment in Class II cases, the mandible assumes a forward position much more naturally and with apparently much less objection on the part of the muscles than where we attempt to hurry the movement, or move it immediately by the occlusal spur. I think the light elastics stimulate the muscles unconsciously, and you do not have the muscular resistance to the changed position of the mandible, especially at night. The occlusal spurs may be all right during the day time, but at night the patient bites on, and breaks or bends the appliances, often loosening the teeth in the process, and allowing the recession of the mandible to its original position, as already pointed out by Dr. Angle.

I believe that with the treatment outlined by Dr. Watson we get or retain a much greater forward movement of the mandible than with the methods previously followed.

I can not agree with the essayist on one point, namely, the idea that all of these cases must be treated in the way he has suggested—especially those cases in which the incisors are really in supra-occlusion. Simply because we have failed to keep the incisors in their normal position is no reason why we should adopt this method. We should put the incisors in normal position and retain them there. Do not stop trying to



arrange some device for keeping them right. If you bring the molars and bicuspids down to their plane (the incisor), you have the whole dental apparatus in abnormal relation to the face. The result might be as objectionable as the original protrusion of the incisors.

The appliances are admirable for the conditions shown. Of course, that is a minor consideration, as the special design of the retainer can be modified to suit any given case.

I saw one of Dr. Watson's cases in Detroit last year, and I would like to refer to the case of mine of Dr. Danforth. a young man seventeen years of age, who suffered from tuberculosis of the hip joint when a small boy. The physician did not wish any inflammation created at all. The case was a marked form of Class II, first division. Light elastics were used for fifteen months. Heavy elastics were not used in any stage of the operation. Spurs and planes were used for six months. They failed to hold the teeth. I again resorted to the light elastics, and allowed the patient to wear them eight The teeth are months longer. They were taken off eight months ago. in beautiful occlusion, and everything in good condition. The physician had this patient under close observation all the time, to note whether any inflammation might arise. None whatever occurred during the whole period of treatment.

Dr. Kemple.

Dr. Kemple.

Vital importance is the one of gentle stimulus to bring about a normal development of the parts concerned. In other words, the idea most prominent in Dr. Watson's paper is to assist nature in the development of the parts, rather than to move the teeth rapidly by mechanical interference. That, in reality, I believe is the function of the orthodontist. It is that one thought that has made prominent the idea of early treatment—treatment at a time when you can, by gentle stimulus, bring about normal development, not only of the dental arches but of the underlying structures, securing a full, normal development of the nasal passages, and aiding the patient, particularly at night, in keeping the mouth closed. To me it seems that that part of the paper is of the greatest importance.

Dr. Watson's and my own paper overlap in one or two ideas. No doubt the discussion of his paper can be taken up in fuller detail when the discussion of my paper takes place.

(Discussion of Dr. Watson's paper postponed to be taken up in connection with Dr. Rogers' paper.)

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### The Bacterial Vaccines in the Creatment of Pyorrhea Alveolaris.

By Friedrich Hecker.

Read before the Second District Dental Society, October, 1909.

Mr. President and Gentlemen of the Second District Dental Society of New York: It is indeed a great honor, I assure you, to come as a guest to read a paper before you, and for this opportunity I thank you.

The object of this paper is to discuss with you the etiology and the treatment of pyorrhea alveolaris. I come not here to lay down any positive law on the treatment of this malady.

I will not discuss any of the past theories which have been advanced by many men of note, as none of them, with the exception of the late great Dr. Miller, has based his writings on actual experiment and research work, but instead they all have merely advanced hypotheses.

The point which forms the nucleus of this paper is, that I hold that the vital resistance of the individual suffering from pyorrhea is below normal. This being the case, there is a lessened resistance to the growth and the action of bacteria. Hence the tissues are unable to protect themselves against the invasion of pathogenic bacteria.

Before one commences the study of any disease, or the conditions which are predisposing to a disease, it is necessary to study the conditions which surround the site of the disease. Hence, I have made the following outline upon which I have constructed this paper:

Let me first offer a brief review of the evolution of bacteriology, including the early theories of fermentation and putrefaction and the study of infective diseases and diseased conditions.

The processes of immunity conferred by natural and specific serums. The opsonins of the blood; what they are.



The common organisms seen in this malady.

The technique of obtaining the organisms for growth; the methods of isolation.

The technique of making a bacterial vaccine; the standardizing of a vaccine.

The technique for making the opsonic index.

The value of the opsonic index in ascertaining the number of organisms that should be given in each vaccination.

Treatment.

The clinical evidence that is presented after vaccination.

The technique of cleaning the teeth, and the removal of the calculus.

A report of cases treated with the bacterial vaccines (according to Dr. Sir A. E. Wright's method of treatment).

A brief review of the evolution of bacteriology, including the early theories of fermentation and putrefaction and the study of infective diseases and diseased conditions.

The first recorded reference of any mention of bacteria is the theory advanced by Animizander about 610 B. C. Meletus about this time advanced a theory that animals are formed from moisture. Empidocles, about 450 B. C., advanced the theory that the peopling of the earth is by spontaneous generation. Aristotle advanced a theory that animals are formed in putrifying soil, sometimes in soil and sometimes in the body of animals. Centuries later Ovid wrote and defended the theory that life and its creation is a spontaneous process. The early ancients laid no stress on the arguments of the philosophy of the creation of life, and as a result of this feeling the theory received very little attention, until the philosophers and scientists of the Middle Ages took up the subject of the creation of life, and by these men the once dead subject was again revived. About the time Ovid made his speech defending the theory of spontaneous generation of life, Virgil gave directions for the artificial reproduction of bees.

In 1542 A. D. Carden asserted that water engenders fish, and that many animals are produced by fermentation. About this same time Von Helmat gave special instructions for the artificial reproduction of mice.

In 1683 Loewenhoek, with the aid of the simple microscope, discovered the first bacteria. The organisms which he saw were in the saliva. At a later date he discovered rotifers in water. And in a still later date he discovered that the globules seen in yeast are plants. The latter fact was verified by Latour and Schwan. Loewenhoek was a staunch believer in the theory of the spontaneous generation of life.

In 1686 Radi carefully studied meat which was exposed to the air. In his researches he observed that flies were seen buzzing around the



exposed meat, and that they were seen alighting on the meat from time to time. He reports that no immediate change was noted. The meat when examined some time afterward had on its surface minute organisms which grew to a considerable size, and on complete development resembled maggots in character morphologically. This experiment led him to make another of the same kind, and at the end of the second experiment he arrived at the same conclusion. From the evidence presented in the two experiments he concluded that flies play a part in the production of maggots. He, however, was not satisfied with the past experiments and concluded to carry on another experiment. This time he subjected a piece of meat approximately to the same temperature and covered it with a piece of cloth. Soon after he exposed the meat he noticed that flies were seen buzzing around the meat, and that they also alighted on the meat. After having exposed the meat for a known time he uncovered it, and on so doing found that the meat was covered with maggots. He was not yet satisfied on the subject and resolved to make another experiment. This time he placed a piece of meat in a large jar and covered the mouth of the jar with a piece of paper. The meat in the jar was exposed to approximately the same temperature as the meat in all his previous experiments. After a certain time he removed the paper from the neck of the jar and carefully examined it. This time he found that the meat was not infected with maggots, and that its general appearance was the same as when placed in the jar and exposed. This last experiment was the evidence he desired and on which he concluded that flies are responsible for the production of maggots.

In 1777 Spalanzii filled a flask with an infusion of organic matter and then sealed it. After this part of the experiment he placed it in boiling water for a period of time. After the process of boiling was completed he placed the flask on his laboratory shelf and awaited the development of life. The flask remained undisturbed for a definite time, and was then removed from the shelf and carefully opened and its contents examined, with the result that no life had developed in the flask. The opponents to this experiment were many, and they argued that the test was not a fair one; then claimed that air is absolutely necessary to the development of organisms.

In 1836 Schultz commenced a series of experiments based on those of Spalanzii, with the exception that he did not seal the flask. The apparatus used by Schultz consisted of a large flask, the mouth of which was stopped, and in this stopper there were two holes; one was for suction and the other for the replenishing of air, which was passed through a series of bottles that contained sulfuric acid. Thus when the operator was desirous of replenishing the air in the flask he created a suction with



tube No. 1, and by this suction fresh air was sucked into the flask which passed through the bottles containing the sulfuric acid, and thence to the flask. This technique was carried on from May until August of the same year, and at the end of this time the contents of the flask were sterile.

Tyndall about this time became very much interested in the experiments which were being carried on by Pasteur. Pasteur had at different times reported that minute organisms are always flying in the air and dust. Tyndall confined himself exclusively to this line of work. He had a glass box constructed according to his own idea. The sides of this box were removable, and by so doing the shelves of the box were exposed to the air and the dust. A certain time having elapsed the sides were again placed in position, and the development of the organisms which were on the plates was awaited. The work of Tyndall was the most extensive of his day. He was also a staunch believer in the theory of the spontaneous generation of life.

At a meeting of the Pathological Society of London held April 5, 1875, the germ theory was discussed for the first time. The discussion at this time was very vague and abstract when compared to a discussion of the present. Dr. Bastian was the principal speaker, and his argument, though not wholly true, was of a very forceful character. Bastian had one fault which led him to no end, and that was that he believed in the theory of spontaneous generation of life. This fact is readily seen by the fact that in his argument he made the following statement: "That bacteria are the result of pathological products spontaneously generated in the body after the body has become diseased."

In 1873 Obermeier discovered the spirillum of relapsing fever.

In 1879 Hansen discovered the bacillus in the cells of the leprus nodules, and in this same year Neisser discovered the gonococcus.

In 1880 the bacillus of typhoid fever was discovered by Ebarth and independently by Koch. Pasteur published his work on chicken cholera and Sternberg described the pneumococcus, calling it the micrococcus pasteuri.

In 1882 Koch discovered the tubercle bacillus, before reporting his discovery he did a great deal of research work with this organism. The same year Loeffler and Schutz discovered the bacillus of glanders.

In 1884 Koch reported the discovery of the common bacillus which is the organism which produces cholera. Loeffler this year succeeded in isolating the diphtheria bacillus and Nicolair isolated and discovered the tetanus bacillus.



In 1892 Cannon and Pfeiffer discovered the bacillus of influenza.

In 1894 Yersin and Kitasato independently isolated the bacillus which is the cause of bubonic plague.

In 1890 a new era dawned in the history of bacteriology and the most triumphant achievement of scientific medicine was inaugurated when the great Behring explained the principles of blood serum therapy.

#### Processes of Immunity Conferred by Natural and Specific Serums.

There is a striking analogy between natural and acquired immunity; at the present it is hard to draw a sharp line differentiating the one from the other. An immunity that is conferred by the by-products of microorganisms is a very slow process, while an immunity established by a specific serum is quite a rapid process.

The question of the production of infective diseases in the lower vertebrates has received a great deal of attention. Gheorghiewsky, a worker in the laboratory of Metchnikoff, found in his experiments that the serum of animals immunized against certain bacteria, when injected into the frog produced an immunity against any further attacks of the organism. This, however, was proven not to be positive in all cases, for if an equal quantity of blood serum and bacilli pyoceaneus are injected into the frog, the serum does not prevent the frog from succumbing to the toxic action of the organism.

Pfeiffer in his experiments observed that cholera vibrios were, by the action of a specific blood serum, converted into granules. He reports that he has observed this process in the peritoneal cavity of vaccinated animals, and that he has also seen the same process take place in the peritoneal cavity of normal animals. From the evidence presented in these experiments, he concludes that the serum which was used to produce this reaction is identical to the reaction which was noted in the animal that was not inoculated with a specific serum. In other words the reaction noted in the case of the vaccinated animal showed that the phagocytes were stimulated by the action of the serum in the first case, and that in the second case this stimulation was not needed, as the animal was naturally immune. From all of this evidence he wrote, "The production of immunity by a bacterial serum is dependent in its action on the cooperation of the phagocytes and the body cells."

Metchnikoff, in using the theory of Pfeiffer's phenomenon to demonstrate the possibility of the action of a specific serum, turned the balance in favor of this theory; that is, that an immunity is induced by the direct result of the action of the serum on the body cells, and also that it prepares the micro-organisms for ingestion by the phagocytes. Metchnikoff



argues that an immunity of this character is a passive immunity. Bordet, learning of the theory of Metchnikoff, commenced to work along this line. A summary of his researches shows that a passive immunity is due in part to a chemical action which is exerted by the action of the vibrios and two preformed substances; one a substance which was present in the animal before injection; the other a substance contained in the serum which is injected. Bordet holds that the cells play little, if any, role in this process. He verifies this with an experiment, in which he extracted all of the cells and after so doing reports that the process takes place in exactly the same manner as it did when the cells were not extracted.

Pfeiffer and Kolle found that if live typhoid bacilli and a protective serum are simultaneously injected into the peritoneal cavity of an animal, the organisms lose their motility, and that at a later date a process of degeneration of the organisms commences and that soon after this the organisms are reduced to granules. The reaction noted in the typhoid bacilli is not as positive as the reaction which occurs in the experiment of the cholera vibrio. These investigators also observed that while this reaction was going on in the peritoneal cavity the leucocytes began to enter the field and commenced the process of assimilation of the disintegrated organisms. Garnier, in his experiments with the typhoid bacillus, pursued the following technique: Into the peritoneal cavity of a guinea pig he injected a known quantity of typhoid bacilli mixed with a physiological salt solution. Twenty-four hours after the injection of the emulsion composed of the normal salt solution and bacteria, he injected into the same area an emulsion composed of typhoid bacilli and blood serum of a donkey that had been previously immunized to the action of this organism. Two to four minutes after this injection an examination was made of the contents of the cavity. The examination showed that the phagocytes were engorged with micro-organisms, and that the retarded phagolosis noted twenty-four hours prior to the last injection was absent. The microphages at this time were rapidly disintegrating the organisms, and at the same time were reducing them to granules. This experiment offered much additional evidence that there is in the blood serum of an animal immunized to typhoid bacilli a ferment which transforms these organisms into granules. This ferment is present in the phagocytes under normal condition. When the process of phagolosis is produced a portion of this ferment escapes into the surrounding fluid.

Metchnikoff in a series of experiments demonstrated that Pfeiffer's phenomenon does not appear in the subcutaneous tissue. He artificially produced an edema in the anterior chamber of the eye, after which he injected into this area cholera vibrios mixed with an anti-infective



serum. On the completion of this experiment he reports he was unable to note any change in the form of the cholera vibrios, and that they remain alive in this medium until ingested by the leucocytes. Having completed this portion of the experiment he inoculated an agar tube with some of the contents from the inoculated eye. A definite number of hours after the inoculation of the agar tube, its contents showed a growth, which, when examined, proved to be the cholera vibrio. By the evidence presented in this experiment he puts forth the theory that the bactericidal substances of the fluids of the blood act only through the intervention of a substance which is contained within the phagocytes.

Mensil made analogous experiments to those of the cholera vibrio with the Massowah vibrio. This vibrio is a very virulent organism when injected subcutaneously into the peritoneal cavity of the guinea pig. In spite of the virulence of this organism Mensil found, that if it is injected into an animal with a protective serum the reaction is very much like the reaction observed in the same experiment with the cholera vibrio. animals used by this investigator for this purpose were young guinea pigs and young rabbits. An edema was always observed at the point of the inoculation. An examination of the contents of the fluids at the point of inoculation showed that many of the organisms were motionless. Mensil reports that he was unable at any time to observe Pfeiffer's phenomenon. At times he observed that agglutination was brought about by the specific serum. The vibrios at no time lost their power of reproduction, and in this experiment he has seen them in all stages of multiplication. Six to eight hours after inoculation the phagocytes came up to the point of inoculation and begun to ingest and digest the vibrios in large numbers. Some of the phagocytes were removed from the point of inoculation and were used to inoculate an agar culture tube on which a luxuriant growth was observed after a definite period of time.

Marchaux in his experiments with anthrax blood on the rabbit learned that if the animal is inoculated with anthrax bacilli below the skin of the ear the animal resists the infection. In other rabbits he first injected them with a specific serum, twenty-four hours after which an echimosis was produced by tapping the ear after the animal was inoculated with anthrax bacilli. Some of the organisms escaped the phagocytes and succeeded in producing an abundant edema which was soon after followed by fatal anthrax. An autopsy showed all of the organs involved, but at no place were the organisms in great numbers.

Sclavo made extensive experiments with the anthrax bacillus, and from the results concludes that the serum stimulates the function of the phagocytes, and that it augments the bactericidal action of the body fluids. Sobernheim concludes from his experiments that anthrax serum



has not any effect on the virus by a direct action of the protective specific substances. In order that a serum may be effective the active intervention of the animal is necessary, otherwise it is impossible to explain why the serum, used in the same proportion against the same quantity of anthrax bacilli, protects one species of animal while another species succumbs to the action of this organism.

Deneys and Leclef prepared and carefully studied the action of streptococcic serums on laboratory animals. Their first experiments with this organism were carried out on the rabbit. Deney reports that the serum of vaccinated animals intervenes in two ways, namely, by hindering the action and the growth of the organism, and second by exalting the action of the leucocytes. After another experiment on the horse with streptococci serum Deney puts forth the theory that the prevention of the growth and the reaction of this organism is not the result of any bacterial element, but that it is the result of a substance which stimulates the phagocytes.

Von Lingelsheim reports that in his experiments on rabbits with immunized horse's serum he observed that the reaction is slightly bactericidal, and that this action is transient. He argues that the action of a streptococci serum is dependent on the co-operation of the body cells.

Bordet, a worker in the laboratory of Metchnikoff thoroughly investigated this subject, and after a series of experiments reports that if an animal is inoculated with an anti-streptococcic serum the streptococcus continues to grow unmolested. He reports all of his experiments negative on the action of this serum. Bordet is a great investigator, and his opinion carries great weight, but in this case he did not treat the subject kindly, and his opinions are pessimistic. Many experiments carried on with this organism have proven positive, and as this is the case it is not just to conclude that the serum is of no value.

Thus far the question has been one of the action of the blood serums, and the serums are of great value. In the last few years the blood serum has been substituted by the physiological salt solution in the manufacture of the bacterial vaccines.

(To be continued.)



#### When the Physician and Dentist Meet.

By Herbert W. Foster, M.D., of Montclair, N. J.

Read at the New Jersey Medical Club at the Manhattan Hotel, New York City,

November 18, 1008.

In thinking this subject over I have almost concluded that the family dentist is as important as the family physician, and, if properly patronized, will often prevent many physical troubles, especially in growing children, that now call for much attention from us. Many cases, in fact, would not need the physician at all if the hygiene of the mouth were properly looked after by the dentist, and there is no doubt but that the modern dentist will gladly do that if the people give him the opportunity.

The chief trouble we have is in getting our families to have the children, and often the adults, too, regularly inspected by the dentist, therefore this paper should treat as much of education and training of patients as of anything else.

We have all too long believed ourselves to be two separate and distinct professions with altogether different duties to our patients, but if we think of it a little we realize that the more the medical and dental professions work together the better it will be for all concerned. The day is over when each physician works alone and thinks individually that he is "the whole thing," as we now freely work together as general practitioners; also we are constantly calling in specialists to co-operate with us in cases where their special training is useful to our patients. Why should we not call an oral surgeon as readily as any other specialist? The relation of the mouth to the rest of the digestive organs, and consequently to the entire body is very close, and a good healthy mouth equipped with healthy and useful teeth is as necessary to perfect digestion and good health as a strong stomach or liver.

As everybody knows, all food, both liquid and solid, is taken through the mouth where it is subdivided by the teeth and mixed with the secretions from the salivary glands. All foods, starches in particular, that are not properly crushed and mixed with saliva are apt to cause fermentation in the stomach, simply because the first act of digestion is not carried out properly, and later regurgitation of the foul, half digested food follows, that does the teeth harm and is evidenced by many so-called dyspeptic symptoms. Instead of a good healthy anti-



septic process going on in the alimentary tract, giving clean nourishment to all parts, we have a foul decaying mass giving off toxins that are absorbed by the blood, and poison every tissue in the body. This causes headaches, gouty, rheumatic and endless other symptoms and lowers the resistance of the body, inviting a long train of ills that are so easily preventable by proper care and use of the mouth.

The pancreatic and other digestive ferments can not properly mix with the intestinal contents, if these have not been properly subdivided before swallowing, giving us a fermenting condition in the whole intestinal tract, all from careless care and use of the mouth. It has been aptly said that Americans are so foolish in their eating that although they eat too much they starve themselves to death; meaning that they are poisoned with what would be nourishment if properly digested and assimilated as nature intended.

# Examinations of the Mouth.

It should be our first duty in treating a case of indigestion to examine the mouth, and how many of us do this? How many of us blame and treat an innocent stomach or liver for the trouble caused

entirely by carious teeth, which can not do their duty?

How often we see a tired, neurasthenic patient, who is really being poisoned by pus generated from a case of pyorrhea alveolaris through all the twenty-four hours saturating the whole system in such a way that if an abscess or necrosed bone were recognized as its source the only treatment would be proper operation and drainage?

How often we are consulted by patients with "facial neuralgia," so-called? These people are often referred to us by their dentists, who tell them that their teeth are all in proper order, and if they still have pains in their face it must be "neuralgia." These cases of neuralgia in the lower part of the face are almost all from disease in the alveolar process. In the upper jaw the antrum of Highmore is often a contributing cause, as well as the superior alveolar process, and is often most successfully treated by the dentist. In many of these cases the teeth have been carelessly filled, having been improperly excavated. The patients have neglected their teeth until they are very bad, and when in this condition they often serve a better purpose by draining the pus from the alveolar process through the dental canal than they do after they have been filled, if thorough preparation for filling has not been made.

Careless fillings have the effect of daming back the gases and pus in the alveolar process, thus producing the old fashioned well-known friend called toothache, with burrowing of pus later, causing the too well-known condition of alveolar abscess.

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Chumb-Sucking. Some people are unable to masticate well because their weak-minded mothers or nurses have allowed them to suck their thumbs in infancy. This

puts pressure forward on the upper alveolar process, pushing the upper teeth forward and prying the lower ones back until they fail to get proper occlusion. Whether this practice leads to mouth breathing and to the development of superfluous adenoid tissue I am not certain, but I believe it does.

The dentist whose education but a few years ago fitted him only to be an extractor of the most troublesome teeth, and a filler of a few of the rest, can not be expected to be of much help to us as physicians, but thanks to an awakening in the dental profession, and the making of dentists who are *surgeons* and *physicians* to the mouth, we can now be of material help to one another by co-operation, and we can often use their intelligent advice in what have been hitherto many trying conditions.

Through their co-operation we can often influence the shape of the mouth through which comes all sounds of speech and song by properly watching our patients during their development, often preventing the development of a nasal or throaty voice, so often taken as evidence of lack of refinement and education.

What gives one a more unpleasant first impression of a person than to get from him, with his first words, a breath of foul air from a mouthful of teeth covered with a thick coating of decomposing tartar?

Let us consider what we, as physicians and dentists, working together can do as custodians of our patients' health in preventing and curing diseases that center around and arise from an unhealthy oral cavity.

To begin with, the unborn child should have its feeding the Mother. teeth anticipated by seeing that the prospective mother has a diet containing enough of the inorganic salts and other bone producing materials to feed the already partly formed teeth in the foetal alveolar processes. Many women through fear of pain during labor starve their unborn child so that in some cases it never has healthy teeth.

Next, the early feeding of the infant should be given attention for the prospective appearance of the teeth. It should not be fed on condensed milk and its analogues that contain little or no mineral matter or proteids.

The familiar ring of the telephone at 2 a. m. can often be prevented by proper care of the baby at and before the tooth erupting age by teaching every mother to watch for the first symptoms of the eruption of the teeth which, when noticed by swelling of the gums and a slight rise in body temperature, should be treated by her by reducing the child's



diet to about two-thirds of its ordinary quantity. A healthy patient erupting teeth always has from one-half to one and one-half degrees of rise in temperature, and it seems that for this reason they are unable to take the full share of food that they can at other times, because digestive fluids are less in quantity and activity during these even slightly febrile conditions, and, anticipating nature's demand for less by giving less, we will often prevent the "teething" troubles of children. The hygiene of the baby's mouth is very important, particularly at this time. It should be kept thoroughly clean by sterile water, but never with boracic acid nor any other chemical, the water to be used on sterile absorbent cotton on the nurse's finger several times a day. The indicated homeopathic remedies often help children in these conditions, and if they show themselves suddenly, a mild laxative to relieve the then overburdened digestive organs often gives good results.

Perhaps the only help that the dentists could be to us in this case would be to advise us to keep the baby's mouth clean and we should know that without their advice; or perhaps to suggest the gum lance, when conditions are just right for it; letting the blood out of the congested gums, and easing up the tension by this procedure occasionally seems beneficial.

When the deciduous teeth are through they should be kept clean with a soft brush or swab, and if there is evidence of caries they should be immediately treated by the family dentist with temporary fillings. These teeth should be preserved as long as possible to maintain the size and shape of the jaws for the permanent teeth which are to erupt later.

That the sixth year molars, so called, are permanent teeth of which few adults are possessed, is simply because almost everybody believes that they are temporary teeth and have them ruthlessly extracted when they show serious caries. We should make every effort to preserve these, as they are really the keystone of the arch of the mouth, and should go with us through life.

The swollen jaws in children from toothache and diseased alveolar processes in children from 8 to 14 years old is too familiar a sight, and one that we, as physicians and dentists, should be ashamed of, provided our families have afforded us a chance to give them proper attention, and it is our duty to educate them up to this. The child should be taught early, during these years, to brush the teeth properly with a small soft brush, and Dr. Watkins says a three-row brush is as large as any one should use, using any one of the many good commercial tooth powders on the market, followed by rinsing the mouth with some of the milder antiseptic tooth washes, such as diluted listerine or perhaps glycothymoline.



# Eruption of Permanent Ceeth.

We now come to consider the hygiene of the period of eruption of the permanent teeth, and our duties are now more important than ever. We should watch for eruption in wrong direction or loca-

tion, due usually to the too persistent presence of the deciduous teeth, or to too early loss of them by accident or other cause.

Any marked deviation from proper alignment should be controlled by the dentist, the discussion of which I will leave to Dr. Watkins.

If adenoids do trouble, they are most often in need of attention at this the age of adolescence, and should be referred to a competent and conservative throat specialist.

What led to my writing this paper particularly Facial Neuralgia. was having so many patients referred to me from their dentists with alveolar disease diagnosed as "neuralgia." It seems to me that we should understand the dentists and they us better. We should stop this shifting of responsibility.

"Go to your doctor and get something for neuralgia," or "go to the doctor and get something for uric acid that is ruining your teeth," is what I hear too often.

As mentioned above I find most of the so-called cases of "facial neuralgia" due to alveolar disease, which can be traced to carelessness in the hygiene of the mouth.

I am aware that uric acid is found in saliva at times, in very small quantities, but not to a sufficiently great extent to injure the enamel, but the lactic acid that is so often regurgitated from the stomach, filled with half masticated and slowly digesting fermenting food, has a very bad influence on the teeth. This regurgitation and distension would seem at first to need possibly the stomach specialist, but these conditions are so often the outcome of improper mastication, due to crippled teeth, so to speak, that it often seems that the dentist is needed full as frequently as the physician.

As regards cleanliness, the general hygiene of the mouth for adults should be about what it is in children. As suggested before, Dr. Watkins will probably tell you something of the daily routine that should be pursued, how many times a day our teeth should be brushed, what kind of a brush to use, and what kind of powder, or wash he finds best. He will probably recommend the use of silk floss and, if he thinks as some of his profession do, he may possibly recommend tooth picks, although I do not wish to pass upon this subject.

Pus Absorption.

As for pyorrhea alveolaris, when we realize that from the sockets of the teeth, in this disease, we are constantly absorbing pus, is it any wonder that our



patients develop chronic toxemias even to the point of septicemia, in some cases? Ulcerative endocarditis and death have also been authentically reported from this cause. In one case it was calculated at post mortem that four square inches of absorbing surface from which pus was being absorbed was in the tooth sockets. When the teeth are loose from this disease the patient can not masticate properly and fails to get the full benefit of the food, and at the same time brings about the long train of symptoms of indigestion and general chronic toxemias mentioned before.

Gleft Palate. Hare lip and cleft palate also come under the scope of this paper. It is an interesting fact that dentists who have taken up this matter as a specialty have contributed to the intelligent and practical treatment of these conditions, more than has the medical profession.

This subject is in itself enough for an entire evening's discussion so I simply refer to it in passing.

# Sterilizing of Instruments.

Dentists should be careful about sterilizing their instruments with heat between every operation, and in selecting dentists for our patients we should know that the one we recommend does this. The chemicals

that most of them depend upon for making their instruments antiseptic we now know are practically useless as they are used in solution in water.

# Oral Manifestations of Disease.

The dentist should be trained in his college course to recognize the eruptive fevers that show themselves first in the mouth, especially measles. He should also recognize the conditions of the tongue

and the throat characteristics of scarlatina, for, in this way, he can often be of service in preventing the spread of these diseases by advising proper quarantine, frequently earlier than the physician is consulted.

Mucous patches and other lesions of syphilis he should also be able to recognize for protection to himself and to his other patients, and indirectly the public in general.

It seems to me that the teeth were made to last as long as the body needs nourishment, and it is an unpleasant fact that they are usually the first organs in the body to give out, and during the whole life are the surest to give constant trouble and to need constant attention.

I believe that with our professional duty done to everybody from earliest infancy up, our patients should all go to their long rest with every tooth in at least serviceable condition.

This subject is so great and of so much interest to all of us that it is a temptation to read a much longer paper, and I have practically only



referred to the chiefest points of interest, believing that Dr. Watkins will bring out more in detail the most vital points in his discussion which I know will be of interest to us all

#### Discussion.

Dr. S. C. G. Watkins, open the discussion on this paper. I feel so for two reasons: First, the paper is given by my townsman, Dr. Foster, whom the people in our town look upon and consider as a little god—nothing less. Consequently, to open the discussion upon a paper by such a man is an honor. Next, I have always heard of and looked upon this society as the bon ton medical society of New Jersey. Consequently, I feel it a very great honor to be invited to appear here. I feel that this subject which the Doctor has taken up is one of very great importance—one that deserves much greater attention than is generally given it by the medical profession—one which affects all your patients and is of vital consequence to them; and, therefore, of great consequence to you.

First, the feeding of the prospective mother for good tooth formation. The mother during pregnancy should be instructed to eat that which will go to make good bone, with a view of improving the teeth particularly—all bone-making food, such as those which contain a great deal of the phosphates, should be used.

While I am on that topic I want to say a word in regard to the mother's teeth; during that period it is a very common saying among old ladies that they lose from one to two teeth with every child-and that is not all—they have not only lost one or two teeth, but many others have decayed, so that they have lost them soon after, and the mouth is very apt to get in such a condition that it never can be restored to a good condition again, and it behooves the physician to instruct his patients during such times, so that they will go to the dentist and have their teeth attended to promptly. If the dentist understands his business there is absolutely no danger whatever. I have operated for patients under all conditions and at all times, and have never seen or heard of trouble arising from such operations. Consequently, I would urge you to make it a point to see that your patients' teeth are in good condition as early in the period as possible and save irritation and suffering. During that time the system is exceedingly acid, and a fermentation will take place around the necks and in between the teeth; the lime salts will be dissolved out to such an extent that decay will go on and the mouth will never recover



from it. During that period patients should be instructed, whether they are able to go to the dentist or not, to first keep the teeth absolutely clean by using a good tooth powder or paste, which is neutral or slightly alkaline in its action, with a proper tooth brush and antiseptic mouth wash, such as borine, boro-lyptol, or some similar preparation—and then use freely the milk of magnesia. I have frequently advised patients in that way. For instance, I would lay out a scheme for them as follows: I would say to them, "When you are ready to retire at night, first brush your teeth thoroughly; after your teeth are brushed then take a teaspoonful of milk of magnesia—hold it in your mouth while you are undressing, say five or ten minutes; then when you are ready to get in bed, swallow the milk of magnesia, but do not rinse the mouth afterward—thus the magnesia will lie all over the teeth and mucous membrane for several hours and neutralize the acid which oozes out from the gums and lips while sleeping, and dissolves out the lime salts from the enamel. In the morning, upon rising, clean the teeth thoroughly, take a teaspoonful of milk of magnesia, hold it in the mouth and swab it around; keep it there while dressing, then expectorate. In that way they have brushed the teeth at least twice a day and neutralized the secretions with the milk of magnesia at least twice a day and prevented a great deal of trouble. I have had them go through the entire period of pregnancy, and several months afterward, when their teeth would be examined, find scarcely anything to do. You would scarcely know that they had had any trouble whatever. If that method is adopted by the mothers they will reap a very great benefit from it.

# Care of Children's Ceeth.

Children should be taught to brush their teeth at a very early period—as soon as the teeth appear, and if so taught they will become so accustomed to using their little tooth brush that in after years it will be

very difficult for them to break away from it, and the result will be clean mouths. I think there is an opportunity for the physicians to do good work, because they see the children much earlier than the dentists, and by saying a word to the mother, urging the use of the tooth brush by the child, great good can be accomplished. There are little single rowed brushes made at the present time, which any little child can use, and very pleasant mouth washes and dentrifices.

Another thing which comes under the eye of the physicians is thumb-sucking. Now thumb-sucking is one of the hardest things that the dentists have to combat. Thumb-sucking is bound to cause deformity. In almost every case where a child sucks its thumb the upper teeth will protrude or the lower teeth will recede. The result is a deformity (especially bad



for a girl) which is very difficult to overcome. The teeth will protrude to such an extent, many times, that they can not draw their upper lip down over the teeth. I have even said to mothers that I would sooner cut the child's thumb off than to have him suck it, as the deformity of the hand would not be as great as that of the face. There are rubber mittens which the child can wear, which makes the hand just like a ball and prevents thumb-sucking. I have rarely heard a physician say that he believed in children sucking their thumbs, although I have heard Dr. Dawbarn, a noted surgeon of New York, say that he would encourage children sucking their thumbs, as that would prevent adenoids, because the children had to breathe through the nose while sucking the thumb. But the removal of the adenoids is a very much simpler operation than the regulation of the dentures, and as soon as the adenoids do appear they should be removed immediately, as mouth breathing will cause a very similar trouble, and the child in the act of breathing through the mouth will draw the buccal muscles down over the molar teeth and will contract the arch and throw the upper front teeth out, while the oribiculoris muscle in the lower lip will press upon the lower teeth and cause them to recede, giving a very similar effect to thumb-sucking, and, consequently, it is necessary that the adenoids should be removed as soon as discovered.

With the eruption of the deciduous teeth a child's troubles apparently begin. There is more or less of a variation of views in regard to the subject

of lancing the gums. I think, as a rule, the physician has more to do with that than the dentist. Some believe in lancing, others do not. I believe that many times the gums should be lanced. Wherever the teeth are trying to cut through and press hard against the gum, causing it to turn white, if the gum is lanced with two cuts, in the form of an X, the gum will draw back and the tooth will come through without any healing over it and forming a cicatrix. If the gum is inflamed and the tooth apparently not quite ready to come through, many times great suffering can be avoided by lancing on the side of the gum, just above the tooth, so that there will be no scar tissue formed over the cutting edge or grinding surface, as it is much more difficult for the tooth to come through scar tissue than it is through the natural gum.

Sixth Year Molar. In the parents know very by instructing their patients in regard to the sixth year molar, which is the first of the second set to appear, and in almost every case the parents will suppose that this sixth year molar is one of the temporary, or deciduous, teeth, and it very frequently decays almost

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child's life—while they are having all kinds of irritations, inflammations, fevers, etc., which will check development and leave imperfect teeth to erupt, which will decay early. Parents should be instructed that those belong to the second set, which are supposed to last through life, and should have immediate attention. By having those imperfections filled at a very early date, great suffering can be prevented and teeth can be saved. I do not think we can put too much emphasis on the protection of the sixth year molar, as it is in the center of the arch, and you might say is the key-stone of the entire arch, where, if it is lost, there is a deficiency in the jaws and in the malar region of the face which has injured the looks of many an otherwise handsome person.

During the eruption of the permanent teeth great care should be taken, and the physician in visiting his patients will many, many times have an opportunity to see the permanent set erupting when the dentist can not. He comes in contact with his patients in a different way from the dentist; he has their confidence, and is mingling with them, and is looked upon as almost their saviour; if he will give his attention just a little bit to the teeth, he will readily see many times the irregular manner in which the permanent teeth are erupting; where if they are allowed to go on, great discomfort, pain and expense are sure to ensue, whereas by directing the parents to have those teeth regulated by an orthodontist, a specialist in regulating, such as are now doing wonderful work in that line, or perhaps only to have them attended to and the temporary teeth extracted at the proper time, it may be possible to prevent all irregularity without any apparent regulation. By the judicious extraction of the temporary teeth there are many instances where very irregular front teeth can be entirely corrected.

I believe that the teeth have more to do with the health than anyone can anticipate—not only decaying teeth, which prevent a child from eating properly, but also irregular teeth. When the teeth are irregular, the jaws are narrow, the teeth are crowded, the nasal bones are crowded together in such a way that it is frequently difficult for the child to breathe—whereas if the teeth were regulated and the jaws broadened, much of that difficulty which necessitates nasal operations can be removed.

# Dentifrices and Brushes.

Another thing that should be impressed upon the child is the daily care of the teeth—the daily use of the brush and the proper powder and washes. There are many very pleasant powders and washes in the

market to-day which the child will not object to using. I would always recommend a powder and wash to a child which is agreeable to it—never one that it dislikes, because no matter how you urge or what you say, he will not use one that is disagreeable—that is, he will not use

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it to any great advantage; but if it is pleasant and agreeable to him he will take delight in using it, and thus form that habit which will last through life.

A brush for a child should be soft and small; in fact, no one can clean his teeth with a large brush. The bristles should run crosswise rather than lengthwise of the brush, and the teeth should be brushed, the upper teeth from the gums down to the cutting surface, and the lower teeth from the gums up to the cutting edge, both labially and lingually, using powder or paste with a proper wash every day.

One of the great disturbances in the child's life is the alveolar abscess, which comes from the temporary teeth which have become badly decayed and in which the pulps have died. The pulp is large in the temporary teeth; it lies close to the surface. It is a pulpy mass composed of connective tissue, blood vessels and nerve tissue. When it dies it putrifies; gases form, abscesses form at the end of the roots, the gases have to escape; if they can get out through the tooth, all right; if not, they burrough through the alveolar process and gum tissue, and the child will not get relief until that takes place.

In almost every case of neuralgia of the face you are safe in diagnosing the teeth to be the cause, as all the nerves of the face are connected at the temple; no matter where the neuralgia may be apparently, it may in most cases be traced to some tooth which is the real cause. By curing that tooth the neuralgia will disappear.

Pyorrhea Alveolaris. Pyorrhea alveolaris is another cause of a great deal of trouble. That is an inflammation of the periosteum of the tooth and alveolar process—the cause of the breakdown of the tissue and the forma-

tion of pus to such an extent that the tooth will frequently be lost while in a perfectly sound and healthy condition. This is a trouble which is baffling the dentists to-day perhaps more than any other one thing which they have to contend with. This trouble is one which should cause the physicians great concern, for it no doubt not only does great havoc in the mouth, but it must of necessity create trouble all through the system, perhaps, which the physician does not suspect, for the mouth is the beginning of the alimentary canal, and the terrible condition that the mouth will be in from this disease will cause all kinds of trouble—or perhaps not be the real cause, but will be the feeder to all kinds of trouble, so that it seems to me almost an impossibility for a physician to cure stomach or similar troubles while the mouth is reeking in disease and pus being swallowed constantly by the patient. It should be the first thought by one treating stomach or kindred troubles to have the mouth examined, and if there is pyorrhea present, have that cured or gotten well under



control before attempting to treat the rest of the alimentary canal. There are now dental specialists who treat pyorrhea alveolaris very successfully, and thus aid the physician very materially in the treatment of disorders of the alimentary canal.

The matter of mastication is one that I have been very much interested in, and one that I feel is Mastication. of greater interest, so far as the teeth are concerned, to the American people than almost any other one subject. I think that the lack of mastication is the cause of more decay of the teeth than any other three or four things together. If the people would masticate more, fermentation would be prevented, and the teeth would be much more easily kept clean, and not only that, but it would give them exercise which they need as much as any other part of the body. Too much can not be said in regard to giving the teeth work. If you want your patient to develop muscle in any part of the body, you direct him to take exercise. You have your fleshy patients play golf. You want them to exercise all the muscles of the body. The blacksmith has developed a great muscle in the arm by pounding the anvil. If you want good teeth you must use them. You can not have them without use. God gave us teeth to use; if we do not use them, He takes them away from us.

There is one country, Thibet, which lies between China and Hindoostan. The people are almost entirely cut off from the rest of the world, and it is said that they are the dirtiest people in the entire world. Such a thing as a tooth brush has never been known among them, and it is said that they have the best teeth of any people on earth. The question was asked me, "How do you account for it?" Gentlemen, to me it is perfectly plain. I account for it in this way: their food is prepared so poorly that they only eat that which is absolutely required to sustain their lives. They do not eat because they enjoy it; they do not get that particular enjoyment which we do in holding our food in our mouths and swallowing it; they simply eat that which is necessary, and because of its coarse and rough nature they are required to chew thoroughly that which they do eat, and consequently give their teeth exercise. The result is they are firm in the jaws, the bone is hard around them, the gums are hard and strong and tightly connected to the teeth, and the teeth themselves are hard and yellow, and will resist decay-and from the fact that they do not eat too much, which most of us do, there is not that fermentation in the mouth or in the stomach to form the acid which dissolves out the lime salts in our teeth. Consequently, they have good teeth.

Now, we can learn a great lesson from them, and eat less and plainer

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food, and masticate it well. If we did that for a few years I think a very great difference would be noticed in the American teeth.

I have not meant to say anything arbitrary or to point out in any way that physicians do not understand their business much better than I do, but whatever I have said has simply been as a suggestion.

#### Dr. John E. Wilson. New York City.

I have been very much interested in the remarks of our guest, Dr. Watkins, and feel that the idea is a good one, which inspired his invitation, viz., that the necessity of co-operation between the dentist and

the doctor should be emphasized. I have been interested, with the rest of you, in the strong emphasis which has been duly placed upon the great part which the perfection of the teeth play in the formation of a healthy body, and in its preservation in that condition. I do not think that we appreciate as fully as we ought the necessity of perfect mastication for perfection of digestion, nor that we are sufficiently impressed with the fact that all educational attempts at obtaining this essential prerequisite for digestion are futile, if the teeth are deficient in number or arrangement. The paper has especially appealed to me, however, in its relation to the mental development of the child, and the effect which dental irregularity may have upon the possibility or impossibility of the individual attaining the position in the world which should rightfully be his. paper shows us how the irregularity of the teeth may, in fact almost certainly does, cause the dental arch to become contracted to a V shape, instead of the normal horseshoe-like contour. When this occurs, the hard palate ceases to present a horizontal plane with rounded edges, but it, in its turn, becomes an inverted V, the well-known Gothic palate. This is not a mere loss of symmetry in the outline of a part of the body generally hidden from view, but initiates a long line of secondary changes, which may lead to the most serious results. If the hard palate is pushed up the vomer begins to bend or crumple laterally, and all the complicated structures in the nasal cavity lose their proper relative positions. account of these changes the nostril on the one or the other side may be completely occluded, and in any case the currents of air are retarded or misdirected. The result of this is a more or less constant nasal irritation and congestion. This is the most common cause of adenoid growths, and also of a recurrence of them after a perfectly skilful removal, and is also the reason why the expected improvement in mental development does not always reward the operator. But it has other results.

Influence of Palate upon the Brain.

If the vomer is pushed up, the vertical plate of the ethmoid follows, and the floor of the anterior fossa of the cranium may be encroached upon, and injurious pressure may be exerted upon the frontal lobes of the developing brain. It is, of



course, a matter of common knowledge that the whole brain is concerned in mental operations, and that they are not, as was formerly held, confined to the frontal lobe of the left hemisphere especially and preponderatingly. While the old view no longer obtains, it is still true that the initiation of thought does have its localization in this area, and it would seem highly probable that any pushing up of the floor of the frontal fossa might affect mental processes disastrously. Virchow laid down the dictum that before anyone could prove that a micro-organism isolated from diseased tissues is the cause of that disease, the following criteria must be satisfied. In the first place the suspected organism must constantly be found in the affected tissues; it must be capable of reproduction upon some culture medium; subjects infected by this secondary progeny must develop the same pathological condition as was exhibited in the original source of the organisms; lastly, the organisms found in this second subject must, in all respects, be similar to those found in the original case.

Deficient mentality is not a microbic disease, and therefore Virchow's dictum can not literally be carried out, but we may imitate the severity of its method to some degree in the present question. One of the most common stigmata of a degenerate child is this very arched condition of the hard palate. Its presence is most common in all deficient persons, the grade of deficiency ranging all the way from the frankly criminal to that of the constitutionally neurasthenic. It is then quite constantly found in those whom we judge to suffer some form of organic damage to their mental equipment. On the other hand, it is practically never found in those who present an average psychical or mental endowment. It may, then, be fairly stated that those persons who have a seriously over-arched hard palate will exhibit signs of retardation or eccentricity in the development of the brain, while those with normal hard palates arrive at the same impaired mental condition only from acute infections, their sequelæ, or perfectly evident external causes. It now only remains to demonstrate the possibility of interchanging the one with the other, with the form of the hard palate as the only variant. I know of numerous cases where bright infants have shown a gradual mental reduction coincident with such changes in the palate, and I have credible histories of properly supervised cases which have been redeemed from conditions of mental reduction, and made fully equal in mental capacity to their fellows of the same age by correction of the dental arches. The mental improvement from the removal of adenoids is familiar to all of you, but, while the cases are fewer, the restoration of the dental arches has been just as definitely followed by a corresponding restoration of the palatal arch, and by mental and moral improvement. It is yet too early to be certain



that the dental arches will retain their correction, or that the increase in mental development will be a permanency, but it seems to be certain that some improvement is at least probable. It seems to me that the just demands for a logical proof have been satisfied, and we are not doing our full duty to the deficient child until an evident distortion of the dental arches has received the fullest advantages of the most advanced dental knowledge. We have long known that a deficient visual acuity may have caused a child to be consigned to the ranks of the dullards, and from poverty of knowledge he may eventually drop into the submerged classes. Deficient hearing has also claimed its victims. We have learned our mistakes in these lines, and co-operation with the dentist may give us the ability to help a class of cases which hitherto has been beyond the bounds of hope. I wish again to thank Dr. Foster for his paper, and for bringing with him so able a coadjutor as our friend Dr. Watkins.

# West Virginia State Dental Society.

The West Virginia State Dental Society held their annual meeting at Fairmont, W. Va., October 14, 15, 16, 1908.

Dr. H. H. Harrison, the president, being ill at his home, the first vice-president, Dr. Charles H. Bartlett, occupied the chair. Dr. Harrison's address was read by the secretary, and Dr. Bartlett on taking the chair delivered an able and instructive paper. The first morning's session was taken up with roll call, payment of dues, discussion of needed legislation and appointment of committees. At the afternoon session Dr. George H. Wilson, of Cleveland, Ohio, gave a paper (illustrated by lantern) on the "Anatomical Articulation of Teeth." Also a talk, illustrated by charts, on clasps, their proper and improper use and arrangement, followed by a general discussion of the subject. In the evening Dr. H. L. Ambler, of Cleveland, Ohio, gave a very interesting talk of travels in the Orient, also illustrated by lantern slides.

Thursday (the 15th) was entirely devoted to clinics by the following: Dr. E. R. Kibler, Indianapolis, Ind., porcelain inlay, chair clinic; Dr. J. A. Libbey, Pittsburg, Pa., immediate root canal filling, chair clinic; Dr. A. C. Plant, Wheeling, W. Va., Ascher's artificial enamel filling, chair clinic; Dr. H. H. Myers, Pittsburg, Pa., preparation of cavities for gold and porcelain inlays (with models), table clinic; Dr. J. A. Libbey, Pittsburg, Pa., annealing Swiss broaches, table clinic; Dr. F. L. Wright, Wheeling, W. Va., cast gold inlay, chair clinic; Dr. George H. Wilson, Cleveland, Ohio, cast aluminum plate, table clinic, also models for ana-



tomical articulation of teeth, models for clasps, table clinic; Dr. A. Earl Hennen, Wheeling, W. Va., cast gold inlay, chair clinic.

At 7 o'clock the Fairmont dentists gave a banquet to the society, which was attended by all the members, all the exhibitors, a few invited physicians and others.

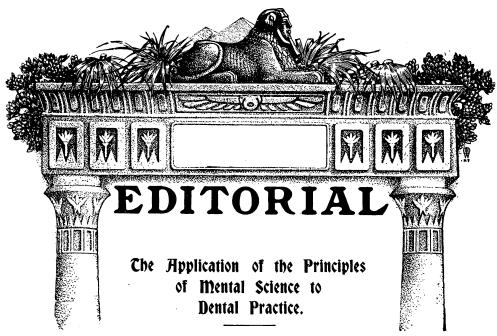
Dr. John W. Storer, of Wheeling, W. Va., had been appointed toast-master, and after the feast of good things, called on the principal speaker of the evening, Mr. Lee S. Smith, of Pittsburg, Pa. Mr. Smith gave a highly entertaining talk on his travels around the world. Others were called on by the toast-master and responded in both serious and humorous talks.

Friday morning was taken up with unfinished clinics, discussions and election of officers, as follows: President, Dr. James E. Dowden, Fairmont, W. Va.; first vice-president, Dr. John H. McClure, Wheeling, W. Va.; second vice-president, Dr. L. J. Walker, Grafton, W. Va.; secretary, Dr. F. L. Wright, Wheeling, W. Va.; treasurer, Dr. D. C. Clark, Blacksville, W. Va.

Wheeling was chosen as the next place of meeting. The time is October 13, 14, 15, 1909.

F. L. Wright, Secretary.





The term mental science in the caption is not intended to mean Christian Science, but rather a knowledge of the influences of the mind upon the body, both in health and disease. This influence is not imaginary, but real, all the organs and their functions, all the tissues soft and hard, all the system, including the lymphatic, the nervous and the circulatory, being more or less affected by mental activities. There is, however, but one phase of this deep and most interesting subject to which we desire specially to draw attention, and that deals with the question of lessening the suffering of patients during dental operations.

The marvelous effects of "suggestion" upon hypnotized persons have been recorded by Charcot and others, but few realize that "suggestion" is a potent agency which may be intelligently used with great advantage upon persons in the normal state of wakefulness. Tuke has pointed out that, whereas all persons are subject to sub-conscious influence from suggestion, the result is intensified or accelerated by what he terms "expectant attention." Thus, a cry of "Fire" and the clang and rattle of approaching fire engines causes all people to turn and gaze, whilst with the great majority the impulse to run is almost irresistible. This is a result of suggestion when taken by surprise. But the athlete, standing



on his mark, and awaiting the pistol shot which is to start the race, is in a state of "expectant attention," which accounts for the swiftness of the onrush when the "suggestion" to "go" reaches him. Expectant attention is variable, the extremes being pleasurable and painful, and the realization will be tinctured by the intensity of the expectancy. This in part accounts for the great pain experienced during dental operations. There is, of course, a certain degree of pain that perhaps is not preventable, but patients suffer much more than they need; much more than they would if they did not come with dread in their minds; much more than they should, since the dentist, if skilled in mental science, can greatly modify the state of mind in which the patient first sits in his chair. By suggestion he may convince the patient, for example, that "perhaps it will not be so bad after all." By actually avoiding all pain at the first sitting, he can bring his patient back at a second visit without any dread at all, and possibly with the opposite idea that "it is not going to hurt at all." In this stage of expectant attention the operation will really be much less painful.

That the operator's own attitude has much influence upon his patient, who is always in a state of sub-conscious attention toward his least act or word, is well illustrated by the following pretty story:

A tiny tot of a girl was sick, and the doctor was called. He was one of those grave and reverend seignieurs who take life seriously, and save lives in the same manner. The doctor talked long and low to the mother, with many a wrinkle of the brow and shake of the head, till the nervous little patient could endure the suspense no longer:

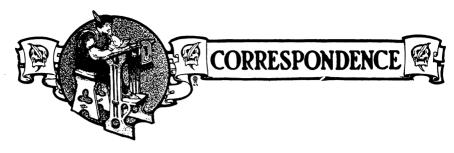
"Mumsey," she cried, "I goin' to die?"

"Certainly not," replied the startled mother. "Why, what a horrible idea!"

"Then why don't he say it happy?" exclaimed the baby girl.

Why not, indeed? Why not always give our patients the most cheerful, the most hopeful view?

Some years ago the writer formulated a little maxim for the management of children, "Treat children as though they were little men and women"; and more recently the following has been added with equal practical application, "and treat men and women as you do little children."



# Reorganization of the National Dental Association.

DEAR DOCTOR:

I have refrained, until this time, from accepting the invitation extended to members of the National Dental Association to express their views with reference to a change in the Constitution, principally because it seemed to me undesirable at this time to interfere with the work of the regular committee, but on account of the numerous misstatements and apparent disposition on the part of some to unfairly state the real issues involved—a statement from one more or less prominently connected with the activities of the Association may have a tendency to clear up a few disputed points, and thereby hasten a better understanding.

From time to time there have appeared, in editorials and communications to the journals—some with the names of the authors attached, while others have been of an anonymous characters—statements to the effect that the association has been mismanaged by the Executive Council; that meetings have been secret; that the reports of its proceedings have not been reported and published; that powers have been arrogated to itself not intended by the members; that there has been a centralization of power not contemplated by the association; that the chairman and members have perpetuated themselves in office by an exercise of autocratic power; that they have solicited votes for themselves and others to the great detriment of the association.

My reply to each and every one of the charges is that they are maliciously and atrociously false, made either to purposely and wilfully discredit the Council, or for the purpose of getting even for some real or fancied personal disappointment. Furthermore, I challenge anyone to openly and publicly, and on the floor of the National Dental Association, produce evidence to substantiate a single allegation. There has never been, to my knowledge, a secret meeting of the Council; every last resolution and action has been reported and published; it has never assumed duties which are not prescribed by the rules, and there has been



no "centralization" of power not contemplated by the association; and no member, so far as I have observed, has worked to retain his office. As a matter of fact, the chairman and its present members have not desired re-election for some years, and have only remained because of the earnest solicitation of many members to continue in the service. Those unacquainted with the work of the Council have little conception of the labor involved, and the many weary hours consumed in listening to complaints, and the harmonizing of differences—many of a senseless and personal nature—to which they have to listen every year To the ordinary observer it may appear that the duties of a member of the Council are always pleasant and agreeable, but a close study of affairs will readily convince any fair-minded individual that it is just the reverse.

Eliminating my personality entirely, I have no hesitation in saying that the members of the Council have performed the duties assigned to them in a thoroughly disinterested and efficient manner.

Much has been said about the injury done to the association on account of its so-called "restricted" membership rules. The statement is neither fair nor correct. As a matter of fact, the association has tried the experiment of unlimited and restricted membership, with no apparent net increase by either plan, and furthermore under either plan no society has ever sent delegates to the full quoto to which it was entitled, so naturally no one has been denied the privilege of becoming a member by any restriction of the rules. There has been agitation with reference to the need for amending the constitution. Of the necessity and desirability of such action there is no question, and no one is more cognizant of the need for such action than those who are officially connected with the association now. Changes have been and are necessary, and the time will never come when improvements should not be made. The proper persons to make the changes are those actively engaged in association work, and not those who rarely or never attend its meetings, and know little about the real condition of affairs. Any constitution to be effective must be plain and simple, devoid of useless and complicated machinery. so that valuable time will not be lost in an interpretation of the rules. The by-laws of different national organizations should be carefully studied and the best chosen from each. To my way of thinking the plan of the American Medical Association does not meet the needs of the National Dental Association on account of the wide difference of local conditions. While the attempt to specialize in dentistry has become decidedly fashionable, a close observation will clearly demonstrate that there is not enough in the literature and activities of the various specialities, with the exception of operative and prosthetic dentistry and orthodontia, to warrant the simultaneous carrying on of several section meetings.



The present rules, prepared by Dr. G. V. Black, after much care and thought, provide for section meetings, similar to those of the American Medical Association, but after a fair trial the experiment had to be given up, because those who had spent much time and study in the preparation of papers of pronounced technical and scientific value, declined to read before a handful of members, while those with papers on more practical subjects read to a full house. It should not be forgotten that the distances in this country are great; that the local and State society meetings are more convenient and require a very much smaller expenditure of money to attend meetings; that the Faculties and Examiners Associations, the Institute of Pedagogics, the Association of Orthodontists, and the various fraternities, each have a tendency to draw from the national body; that members of the associations just mentioned, by reason of business or personal interest, only attend the National Dental Association meetings, in the large majority of cases, as a side issue entirely. For these and other reasons it will be many years before there is an appreciable increase in membership of the National Association. Of course, diverse and sundry reasons are given by individuals for not becoming members, but the plain truth is, dentists, like other people, usually go where their business interests are greatest, and where they like to go the best; and wide open rules will make little difference.

There is no occasion at this time for any individual to get chesty, and insist that any particular plan is a cure-all for our ills. Neither is there any need of becoming personal, or flying into a passion because some may disagree with us in the consideration of the various important questions as they come up from time to time. There is ample room for an honest difference of opinion on any set of rules that may be proposed, and there is no occasion for some individuals to take themselves too I have no hesitation in saying that much criticism of the National Association in years gone by has been largely due to personal disappointments, and the failure to carry out, or have prominence given to pet schemes—particular cases of which might be cited, and will be if requested. Then again we have criticism from those who are not members of the association, or who have recently become affiliated. Common rules of fairness and ordinary modesty should be observed in criticizing the association, even though it may have been made to appear fashionable to talk about things of which one has little knowledge.

The National Association has done, and is doing good work, and there is little justice in many of the assaults which have been made upon it. The sense of loyalty and responsibility is strikingly lacking in many of the criticisms of the association's work, and bluntly speaking a great many are not true. If the Executive Council or Commitee, or any



other departments of the association, are responsible for all of the hue and cry that has been raised, a very expeditious way of overcoming the objections may be found by abolishing them, or making their present members ineligible to re-election, or, surer yet, by disfranchising the "undesirable citizens."

The preparation of constitutions are matters of evolution and education, and should not be hastily considered. No harm will be done by rational and good natured discussion, and no attempt should be made to coerce or bully a committee composed of experienced, sensible and level-headed men. There has been no real excuse for the captiousness which has been indulged in by many, or the threats of a new national organization. Sensible men will pay little attention to arguments of such flimsy nature. The plain, simple facts are that with the publication of a journal in view, and other changes that are necessary, it behooves the National Association to call to its assistance the best business judgment and soundest common sense to be obtained, to properly determine what is best to be done at this time. Every subject under discussion should be approached in a good natured, friendly manner. Personal differences should be laid aside, and an honest attempt made to really and truly do something for the permanent good of the association. has been quarreling enough, so let us get together on a broad gauge, friendly and harmonious platform.

Very truly yours,

H. J. BURKHART.

Batavia, N. Y.

#### DEAR DOCTOR:

I heartily approve of reorganization, and believe a constitution and by-laws similar to that of the American Medical Association, the kind needed. May its adoption be followed by having an association that will be powerful for good, and help the dental profession to occupy its true position.

In reading over the constitution and by-laws several times I find little to criticise. A few points, however, might be improved.

Article I.—Name. As a matter of sentiment I would prefer the name to be The American Dental Association.

Article VI.—Sections. There should be at least four sections. Section 2 has nine subjects, all important ones, and should receive merited attention. Take etiology, hygiene and prophylaxis, they could easily consume the time allowed for a section meeting. While Section 2 of this article provides for any change in the number of sections that may become necessary, it seems that the reorganization should consider these



three subjects of such vital consideration as to have them in a section by themselves.

Article XI.—Section 2. Why should any member be excused from the payment of dues? They only become nominal members without incentive to take an interest, and not having the Journal, unless by personal subscription as provided in Section 2, Chapter I, of the By-Laws, are likely not to become an entity in the work which it is expected the reorganized association will conduct.

Section 3.—In regard to assessing members and constituent associations, in case of need, five dollars and fifty dollars, respectively; this is a question requiring thought and study as to its advisability. What we need is members, and willing ones, in order to create an impression of strength and force. The average dentist, however, should not be embarrassed with the idea of a possible assessment. Constituent associations generally have money in their treasuries for use in emergencies, and it perhaps would be more practical to have assessments made only upon constituent associations.

By-Laws.—Book II.—Chapter IV.—Section 1.—To make the association as democratic as possible the words "except delegates from bodies named in Section 1 of Chapter III" should be stricken out.

Chapter XIV.—Section 2.—The provision for securing manuscript is hardly sufficient, or might not be under many conditions. Would it not be well to have the different authors prepare two manuscripts, one to be forwarded to the secretary of the section in which it is to be read at a date designed prior to the meeting of the association and one for the author's own use?

Yours very truly,

Chester, Pa.

S. B. Luckie.

My Dear Doctor:

I am heartily in sympathy with the idea of reorganization for the National Dental Association. In fact I joined this society hoping that some such change would soon be brought about.

If this plan is followed we will then have a National Dental Association in more than name, and I believe the dental profession is entitled to such a body.

I do not feel qualified to express an opinion regarding each proposition in your suggested constitution and by-laws, but that will be a matter for a good committee to consider.

Yours very truly, .

J. Lowe Young.



#### Dear Dr. Ottolengui:

In reply to your request to the members of the present National Dental Association to give their views upon the advisability of adopting the constitution proposed by yourself at Boston and referred to a committee of the National, I will answer as follows:

Having read carefully each section and having studied its effect in general I can see but one essential point which has evidently been overlooked, but which, while vital, can be remedied by changes which may be made upon its adoption, should this be adopted by the present National Dental Association, and that is, no provision has been made to meet the requirements for membership, etc., of the new constitutional body or the manner of its initial working out of the proposed plan either by the members of the present National body or the proposed constituent associations. In other words, there is no provision for the commencement of the new or the dismemberment of the old National organization.

This, of course, can be remedied by immediate or future agreement with those associations which will be considered "constituent associations" to send special delegates with powers to act to the meeting at which it may be decided to adopt the same (should this be done) upon the basis of two delegates from each State and Territory, this basis giving a total number less than what will ultimately be the full membership of the House of Delegates to be provided. In order to bring this about action within and consultation with these proposed constituent associations must be, of course, previous to the adoption of your proposed constitution by the present National Dental Association. As the proposed constitution, as well as the whole subject of the desirability of a change of the present constitution of the present National body, is now merely before a committee for report thereon, the first opportunity for the National Dental Association to vote to make any change, even should the present committee report to be in favor of the same, will be at the earliest the meeting which follows the one in the South; or, in other words, practically two years from now. This gives plenty of time to obtain a general understanding of what is proposed throughout the United States, and for the committee now in charge to provide in their report for the ways and means to change the present National body and incorporate the new upon a working basis.

As to any criticism I can make upon the lines laid down, there is none, merely a caution to remember that the total number of dentists of the United States is about 40,000 as against 200,000 physicians, from which the American Medical Association derives its support, the latter well organized throughout the country, while the dentists have only



about fifteen per cent. in their organization, much to their shame and more to their detriment.

I note that you have placed the District of Columbia contingent under the wing of the Maryland State Dental Society, a very proper move based upon conditions of government as well as location. The city of Washington, as well as the District itself, is held by the Supreme Court as merely a "municipal corporation," and "neither a State nor a Territorial Government." Then, too, for years the Maryland and District dental societies have been holding "joint meetings" in alternate years in Baltimore and Washington as well as extending courtesies to each other in local affairs. The membership of each of the above societies is about equal, about one hundred. The Maryland State Society has about ten members in the National and the District about forty, and amalgamating the two may serve to awaken the members of the Maryland Society to realize that they are negligent in their relations with the National body.

I am pleased to note the general lack of adverse criticism of the proposed change by the numerous correspondents discussing the same, the only ones which might require thought being that of the future relation of the Southern Branch and of the "delegating of the powers of the body to a small number." For the former I can see no possible change to its detriment or involving any loss of its prestige, and to the latter, instead of the "delegated powers" being made to a smaller number, it is enlarging from the present seven of the Executive Council to a generally distributed body of some 150—a much-to-be desired reformation. In conclusion I will say that with a means provided to put it upon a working basis, the proposed constitution would receive my vote and most hearty support.

Respectfully yours,
EMORY A. BRYANT.

[Dr. Bryant is mistaken in believing that the proposed constitution can not be adopted at the coming meeting of the National. It may not be advisable to act so quickly in such an important matter, but there is no constitutional barrier. The new constitution having been presented at the last meeting, may be adopted in Birmingham, the fact that it has been under consideration by a committee in no way destroying the rights of the introducer to call it up for action. Dr. Bryant is likewise not entirely correct in saying that no means has been provided for accomplishing the transition, Section 2 of Article IV dealing with this problem. It may be well, however, to formulate some more detailed plan.—ED.]



#### My DEAR DOCTOR:

I believe you have gotten together a very complete form of constitution and by-laws for the National Dental Association, and if it can be put in such shape as the Medical Association now is, it certainly will be a happy thing. I have often wished our profession were as broad as the medical and that its members were as liberal toward fellow members and practitioners as is found in medical ranks. Just now the suits in regard to inlays pending in Washington are samples of what would not occur in medical ranks.

Hoping that good will come from your efforts, which I surely endorse, I am,

Yours truly, .
GRAFTON MUNROE.

Springfield, Ill.

DEAR DOCTOR:

Replying to yours of September 30th, will say I am in favor of reorganization of the National Dental Association.

Yours truly,

ALTON B. WHITMAN.

Orlando, Fla.

#### My DEAR DOCTOR:

Your circular letter of September 30th came duly to hand. It has been read by me, but as I have not been actively engaged in the affairs of the National Dental Association and have been only a looker-on at its meetings, I feel hardly competent to judge of matters. I may say this, however, that anything that will bring about a greater professional interest and a greater distribution of association influence is a consideration worth striving for, and I believe in the Illinois Society we have accomplished this. If what you have in view is in that direction, I shall certainly favor its accomplishment.

Very sincerely yours,

CHARLES R. E. KOCH,

Secretary Northwestern University Dental School.

Chicago, Ill.

#### My DEAR DOCTOR:

I have just read your plan of reorganization of the National Dental Association, and I think that it is an opportune time to put such a plan into effect.



The advantages of such a plan of reorganization as stated in your article and in your letter are manifold, and as far as I can foresee, there are no disadvantages.

As a member of the American Society of Orthodontists, I should only object to any section of the constitution which might limit the freedom of this society, and I can not see that there are contained in the present draft any objectionable sections.

Fraternally yours,
HERBERT A. PULLEN.

Buffalo, N. Y.

#### My Dear Doctor:

I want to thank you for your letter of recent date, as well as for copy of ITEMS OF INTEREST.

I have read the proposed constitution you suggest, and it seems to me well gotten up. My own idea is that a matter that means so much to our profession should be most carefully prepared in committee, and presented to the National Association for criticism and approval. Let it be concise and brief as possible, to cover all requirements. Let us broaden our vision, and show that we are able to stand above. Let us have our own dental journal. There will be no trouble about being recognized as a great and useful profession when we have made ourselves worthy, and a great organization with a well digested constitution will accomplish much more than anything else.

With best wishes,

Fraternally,

Knoxville, Tenn.

B. D. Brabson.

#### DEAR DOCTOR:

I am emphatically in favor of reorganizing the National Dental Association along the lines of the American Medical. Vicarious experience is good enough for me, by which to form an opinion in a matter of this kind.

Sincerely yours,

Covington, Ky.

J. S. Cassidy

#### My DEAR DOCTOR:

Regarding the reorganization of the National, I have not yet seen the September number, but you can put me down as endorsing every word you say.

Cordially yours,

Chicago, Ill.

C. N. Johnson.



#### DEAR DOCTOR:

I received your esteemed favor some time ago in regard to the reorganization of the National Dental Association, and after reading the various reports and comments took time to think it over before replying to your questions.

There has certainly been a dissatisfaction with the N. D. A. for some time, which has militated against its usefulness. I could not diagnose the trouble, but there has been something radically wrong with it. I am glad that reorganization is in the air and hope that it will lead to an improvement. It is apparent from the interest manifested that it is in the air, and that something will be done. This is very encouraging, and indicates an awakening of the professional conscience that will lead to action. The apathy that has been exhibited by the mass of the profession toward all dental societies and organizations has been very discouraging to those who have her best interests at heart, and who labor so devotedly for her advancement. Loyalty to our beloved profession stands next to patriotism in the line of sacred duties that make for the common good. Hence we can not but rejoice at the evidence of the awakening of the professional conscience, and hope and pray that it may lead to a wide-spread revival.

I have read with interest the draft of the constitution that you so laboriously and thoroughly prepared, for it shows evidence of research and extensive study. I must say first that it looks to me now as being too elaborate and confusing. I am not much in favor of much machinery in organizations, and prefer simplicity. But, on the other hand, it is to be said that attention to elaborate details will tend to awaken interest in the organization, which a simpler system would not do. There is such a thing as being too simple, and thereby losing interest. So I am free to say that I do not know. If it is the desire of the majority to model after the American Medical Association, expecting it to have the same effect, by all means let us do it. If reorganization will awaken enthusiasm and fraternity and the spirit that makes for professional advancement, by all means let us have it. We certainly can not have them without it. We can not, however, expect to reach the success that the A. M. A. has attained, for we have not the numbers, but we have sufficient to make a success of a good organization. It should ramify to the remotest corner of the land, so as to reach and help and uplift the humblest brother dentist. It should go to him in a fraternal spirit and take him by the hand and give him words of encouragement and help. It should entice him into joining his local and State societies and make him feel that he is a man among men, and that his work is just as important to humanity as the most celebrated member of his profession. He should be made to feel



that he is an honor to his profession. The leaders of the profession have been too aristocratic and exclusive. We need more democracy and recognition of the rank and file. This has been one cause of the failure of the National organizations that have gone before. The rank and file feel that they are not in it with the aristocrats and go away from the meetings feeling snubbed and discouraged. This condition must be corrected. The humble country practitioner, even if he can not be eminent in scientific research or high class methods and big fees, must be made to feel that he has an important place to fill in his humble way and must be honored for it

Let us hope that the new organization will do this and that it will be more democratic. For, just as certain as fate, without this democratic spirit, it will fail as its predecessors have done. The rank and file are the backbone of the profession, as the commoners are of the National, and the powers that rule get their power from them. It should include, it *must* include, all sorts and conditions of men and weld them into one homogeneous mass to the end of ensuring success and making for the advancement of the profession.

Yours sincerely and fraternally,

Topeka, Kansas.

S. H. THOMPSON.

#### DEAR DOCTOR:

Your letter of September 30th received and noted. After reading the constitution you have submitted to the Committee on Revision I can see no great fault to find. One thing I do not approve of, the Army and Navy surgeons being admitted without pay or dues. I see no reason for this. They are not objects of charity and should pay as we do. It would take more careful study to speak intelligently on this constitution. I heartily agree with Dr. Carr, the retiring president, and no doubt you have taken a step in the right direction. Yours truly,

E. A. Law.

#### DEAR DOCTOR:

In re your circular letter, I heartily approve the effort and plan to reorganize the National Dental Association. The suggestions in Dr. Arthur Black's letter (p. 958, 1908) seem to me valuable contributions to the working detail of the general plan.

I am optimistic as to the possibilities of an association journal.

Very truly yours, HENRY W. GILLETT.



# Dr. Caggart and the Dental Profession.

Editor ITEMS OF INTEREST:

The editorial in the *Dental Review* for February, entitled "The Tragedy of the Dental Profession," states the case fairly and truthfully and makes pretty clearly apparent the "tragedy" of the situation as it relates to Dr. Taggart. It seems necessary, however, if it is possible, to bring more sharply and clearly to the attention and the consciences of the dental profession the duty that we owe to Dr. Taggart.

There is no doubt whatever that the dental profession will continue to maintain its opposition to the holding by members in good standing of "process patents" which require an office license or the payment of royalties upon operations performed, but moral questions are apt to have several aspects and those who have insisted strongly upon the relinquishment of the legal rights and emoluments which an inventor might receive under such a patent, have mostly ignored the responsibilities which the profession must assume when it insists upon such an ethical requirement, namely, the obligation to prevent or remedy any instances of gross injustice that may arise by reason of obedience to that ethical rule. If there are any who are insisting upon such compliance by Dr. Taggart and have not yet fully discharged their personal obligation to him, it is worth while for them to consider carefully whether they belong to that old sect that received the indignant and scornful rebuke, "For they bind heavy burdens and grievous to be borne, and lay them on men's shoulders; but they themselves will not move them with one of their fingers."

It is to be noted that before taking any steps to enforce his supposed legal rights under his process patent Dr. Taggart waited at least eight months after his machines were ready, during which time the dental profession had ample opportunity to show their appreciation of the obligation above referred to and their disposition, if they had any, to treat Dr. Taggart with something like justice. Dr. Taggart has spent two years, more or less, of his time, all of his money, and strained his credit to the limit, and, whether willingly or unwillingly, he has given it all to the profession and the profession is in full possession of it all to-day.

Now the solution of this situation is not chiefly, by organization and subscriptions and resolutions by societies, nor even by appropriations from society treasuries; all these may help some, but the only proper and adequate solution is by the individual action of every man who is casting inlays.

Probably there are not more than a dozen men in the United States who would dare to say positively that they would now be making any cast inlays except for the work done and the announcements made by



Dr. Taggart. The making of inlays has a money value to every man who is making them and that value he has received from Dr. Taggart, and owes to him a just compensation in money for that value received. The whole matter resolves itself, in this aspect of it, into a question of simple, common, every-day honesty; exactly the same kind of honesty we all expect our patients to practice toward us, and that we wish them to believe that we practice ourselves. There are probably at least one thousand dentists (perhaps there are two thousand) in the State of Illinois who are making cast inlays. If each of these men will pay his debt to Dr. Taggart, in amount having proper relation to the money value of the process to himself, or more properly still by buying Dr. Taggart's machine, the price of which represents Dr. Taggart's judgment as to what he is entitled to receive from those who use his process, it need not be doubted that Dr. Taggart will gladly relinquish all attempts to collect office licenses or royalties.

Ingratitude and dishonesty are pretty hard words, but it is doubtful if any sophistry, or special pleading, or extenuating circumstances, will enable any man to squirm out from under them if he refuses or neglects to repay his pecuniary obligation to Dr. Taggart.

EDMUND NOYES.

Chicago, Ill.

Editor ITEMS OF INTEREST.

In common with the dental profession in general I have received, under date of November 16, 1908, a circular letter from Dr. Finley, of Washington, D. C., setting forth numerous grievances, for which he states the profession has just cause against Dr. Wm. H. Taggart, and urging all dentists to combine and remit to him sums of money to fight the patents obtained by said Taggart on a certain machine invented by him for making cast gold inlays, and the method or "process" of making the same.

I have waited in vain for some member of the profession who possesses a facile pen, a sense of justice and a feeling of gratitude, to stand forth in defense of Dr. Taggart, and have finally felt obliged to lift my feeble voice in what I believe to be a righteous cause.

I desire to make it known that I have no grievance against Dr. Finley, nor against any man who seeks to repel what he deems an infringment on his personal rights, and merely ask from those who differ with me the same indulgence of my right of expression, which I gladly grant them—so between us there can be no controversy.



To the thousands who personally know Dr. Taggart this article will seem uncalled for, but to the greater number of thousands who do not know him it may be well to answer the inquiry, which no doubt is frequently in their minds: "Who is Dr. Taggart; what has he done; to what is he entitled?"

As a student at the Philadelphia Dental College in 1877-78 he gave early promise, by his every-day work at the chair and in the laboratory, of the wonderful mechanical genius which later years have so perfectly fulfilled—a genius which was as inspiring and helpful to those around him as it was superior to that possessed by any of his fellows. Through all the intervening years his talents have been put to such good use that the judgment of his professional brethren to-day is that he stands without an equal as an all-round dentist. What he says and what he does is right; there are no flaws in his theories, nor are there faults in his practical application of them. He knows that he knows and this is what he is.

From the fullness of his knowledge of the infinite details of the science of dentistry, he has given freely to the less fortunate members of the profession.

In the numerous societies where he for years has been the most sought after clinician, he has made easier the daily labor of many a struggling dentist by his kindly suggestions and wonderful aptitude as a teacher, with never a sign of the superiority which was his, and with apparently no other thought than to help someone who did not know.

Numerous devices, time savers and money makers, thought out and put in practice by him, he has given freely to the profession until now, after years of patient experiment and through discouragements incident always to the life of a genius, he comes before the dental world with the crowning triumph of his career, consisting of a new and perfect way of doing what we have vainly tried to do for, lo! these many years, and this is what he has done.

# Co What is he Entitled?

If, eighteen months ago, any man had appeared before a dental society declaring that he could do what Dr. Taggart can now do with his machine; if he could have proven it without showing the

process or the machine, how many dentists then present would have gone home without one of the machines? Not one who had the price! Instead of this, very many of the profession at once set to work to make machines of their own, each one using the Taggart "process" in a modified and inefficient form, and each one used for the purpose of escaping payment for something not belonging to them, either by purchase, gift or right of discovery.

It is needless to describe the process and useless to argue the point

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that it has done more to lessen the burden of the dentist and improve the quality of his work than every other process or invention in the history of the profession! We all acknowledge it. We all use it, but do not want to pay for it. Isn't that it? In other words, the laws of the country have given Dr. Taggart certain rights under his patents. He has something which every dentist needs, and for which nine out of ten dentists try in vain to find a substitute. Every man who uses a casting machine which is an infringement on the Taggart machine is little better than a common thief! Has the profession reached the point where it is willing to go on record as denying to any man his just dues? Dr. Taggart has ever stood in the foremost rank of those choice spirits who practiced the "ethics" which modern business methods demand. The mere fact that he has obtained a patent does not, in any sense, affect his ethical standing, nor should it be urged upon the profession as a reason for denying him his well-earned reward.

Any combination of any considerable number of dentists to fight the rights of Dr. Taggart can accomplish nothing save to further harass a man who deserves the gratitude of the dental world, and the financial emoluments which should be his from the sale of the product of his genius.

There has been some talk of the "monument" which we shall some day raise to his memory. It is to be hoped that Dr. Taggart is a long way from the gravestone age, and that the years which remain to him may be made the best of his whole life by the appreciation of a grateful following which shall be world-wide and whole-hearted in its spontaniety.

To relieve any misapprehension, the writer states that these words, insufficient though they be, are from a friend who has profited much by his intimate relations with Dr. Taggart, but who realizes that his light is but as a candle to the incandescence of the glow which radiates from the genial William, and it is offered merely to tell the truth to those dentists whose paths have not, as has mine, occasionally crossed that of our greatest benefactor.

OLIN H. SMITH,

A graduate of the Philadelphia Dental College, Class of 1877. Sycamore, Ill.



## Dr. J. O. Wells.

Dr. J. O. Wells, Professor of Crown and Bridgework, College of Dentistry, University of Minnesota, died August 26, 1908.

Dr. Wells was born in Newberry, S. C., February 13, 1871. He received his early education as well as his academic degrees in Newberry. B. A. degree in 1892, Master's degree in 1894 in the Newberry College. Dr. Wells engaged in teaching for two years, then removed to Minneapolis where he received his technical education, graduating in 1899 from the University of Minnesota. Dr. Wells had an admirable qualification for dentistry and soon proved his worth. He was appointed as an instructor in 1899 and professor of crown and bridgework in 1902. As a teacher he was especially efficient and held his position with the greatest honor until his death. He was an organizer and leader and worked zealously in nearly all the dental meetings in the State of Minnesota, and served as president in the State Association in 1905. He lived quietly but his influence was of a lasting character. He was a man of the highest culture and read continually. He has gone to that more perfect spiritual existence in which he believed. He lives on through his work, this is our only consolation; his place we can not fill; his influence we shall always feel. Dentistry has lost one of the most valuable workers. the University of Minnesota a most able teacher, the community and family a loving member.

Dr. Wells is survived by a widow and an infant child.

ALFRED OWRE.



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# SOCIETY ANNOUNCEMENTS

# national Society Meetings.

National Dental Association, Birmingham, Ala., March 30, 31, April 2, 1909.

American Dental Society of Europe, Wiesbaden, Germany, April 9, 10, 12, 1909.

# State Society Meetings.

Alabama Dental Association, Anniston, Ala., May 11, 1909. Arkansas State Dental Association, Hot Springs, Ark., May 26, 27, 28, 1909.

Connecticut State Dental Society, Waterbury, Conn., April 20, 21, 1909.

Delaware State Dental Association, Wilmington, Del., February 3, 1909.

Florida State Dental Society, Ocala, Fla., June 17, 18, 19, 1909. Iowa State Dental Society, Des Moines, Ia., May 4, 5, 6, 1909.

Indiana State Dental Association, Indianapolis, Ind., June 29, 30, July 1, 1909.

Louisiana State Dental Society, New Orleans, La., April, 1909. Maine Dental Society, Portland, Me., June 24, 25, 26, 1909. Massachusetts Dental Society, Boston, Mass., June 9, 10, 11, 1909. Minnesota State Dental Association. Lake Minnetonka, Minn

Minnesota State Dental Association, Lake Minnetonka, Minneapolis, Minn., June 22, 23, 24, 1909.

Mississippi State Dental Association, Natchez, Miss., May 11, 12, 13, 1909.

Missouri State Dental Association, Kansas City, Mo., May 26, 27, 28, 1909.

New York State Dental Society, Albany, N. Y., May 8, 9, 1909.

New York State Dental Society, Albany, N. Y., May 8, 9, 1909.

New York State Dental Society, Asheville, N. C. June 22 to 26.

North Carolina State Dental Society, Asheville, N. C., June 23 to 26, 1909.

Ohio State Dental Society, Columbus, O. December 7, 8, 9, 1909.



Oklahoma State Dental Society, Oklahoma City, Okla, June 3, 4, 5, 1909.

Oregon State Dental Association, Portland, Ore., July 12, 13, 14, 1909.

Tennessee State Dental Association, Memphis, Tenn., May 25, 26, 27, 1909.

Texas State Dental Association, Waco, Texas, June 10, 11, 12, 1909. Utah State Dental Society, Logan, Utah, latter part of June or first part of July.

Virginia State Dental Association, Chase City, Va., June 21, 22 23, 1909.

West Virginia State Dental Society, Wheeling, W. Va., October 13, 14, 15, 1909.

Wisconsin State Dental Society, Milwaukee, Wis., July 13, 14, 15, 1909.

## national Dental Association.

The thirteenth annual meeting of the National Dental Association will be held in Birmingham, Ala., March 30 and 31, April 1 and 2, 1909. All meetings of the association, sections and clinics will be held in the City Hall, corner Fourth Avenue and 19th Street, headquarters of the association at Hotel Hillman, directly opposite the City Hall. Reservations should be made through chairman of the Local Committee of Arrangements, Dr. J. A. Hall.

The following incomplete programme is announced:

#### Programme.

Essays.					
James McManus, D.D.S					
(Subject later.)					
Edward C. Kirk, D.D.S., Sc.DPhiladelphia, Pa.					
"The Dental Relationship of Arthritism."					
L. C. Noel, D.D.SNashville, Tenn.					
"The Management of the Mouths of Young People from the					
. Age of Six to Adolesence."					
Section I.					
Harry E. Kelsey, Chairman. J. S. Spurgeon, Secretary.					
Martin DeweyKansas City, Mo.					
"Development of the Face."					
Discussion by					
Richard SummaSt. Louis, Mo.					
Frederick B. Noyes					

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Calvin S. Case.Chicago, Ill.W. O. Talbot.Biloxi, Miss.C. A. Hawley.Washington, D. C.F. C. Wilson.Savannah, Ga.						
H. H. Johnson						
"Crown and Bridgework."  Discussion by						
H. T. Stewart. Memphis, Tenn. T. P. Hinman Atlanta, Ga. C. L. Alexander Charlotte, N. C. Gordon White Nashville, Tenn. Carroll H. Frink Fernandina, Fla.						
Clarence J. Grieves						
Discussion by  Joseph Head						
George H. Wilson						
S. L. Rich. Nashville, Tenn. W. B. Finney Baltimore, Md. F. W. Stiff. Richmond, Va. A. J. Cottrell. Knoxville, Tenn. N. C. Leonard. Nashville, Tenn.						
SECTION II.						
W. G. Ebersole, Chairman. L. L. Barber, Secretary.						
S. D. Ruggles						
Discussion by George H. Wilson						
George S. Vann						
F. L. Hunt						
W. T. Jackman						



Discussion by	New Vork City				
Herbert L. Wheeler					
J. R. Callahan					
Section III.					
Charles C. Allen, Chairman.	J. W. Hull, Secretary.				
A. H. Thompson	Topeka, Kans.				
Discussion by					
, L. G. Noel					
Levi C. Taylor					
Discussion by					
N. S. Hoff					
A. C. Fones					
Gordon White	•				
"Something on Pyorrhea					
Discussion by					
J. D. Patterson					
J. C. Hartzell					
A. W. Harlan					
Discussion by	*.				
H. H. Johnson					
H. W. Gillette  J. H. Crossland					
	• •				
Truman W. Brophy					
Discussion by					
J. D. Patterson					
Railway Rates.					
The Southeastern Passenger Association g follows:	grants excursion rates as				
From Washington, D. C., and return From Cincinnati, O., and return					

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From Cairo, Ill., and return	12.50
From Evansville, Ind., and return	13.60

And proportionate rate from all agency stations in territory south of the Ohio and Potomac Rivers, and east of the Mississippi River.

Tickets for going can be purchased March 29 and 30, and good returning not later than April 4. All tickets limited to continuous passage.

Persons outside territory above indicated should purchase ticket to the nearest point where reduced rate can be obtained.

This reduced rate is not on the certificate plan.

#### hotels.

Hotel Hillman.—\$1.50 and \$2 per day without bath; \$2.50 and \$3 with bath. Two persons occupying the same room with bath, \$2.50 per day for each person.

Florence Hotel.—\$1.50 and \$2.00 per day without bath; \$2.50 and \$3 per day with bath. Two persons occupying the same room with bath, \$2.50 per day for each person.

Hotel Morris.—\$1.50 and \$2 per day, single, without bath; \$2.50 and \$3 per day, single, with bath; \$1.25 and \$1.50 each, double, without bath; \$1.75 and \$2.00 each, double, with bath. European plan.

Birmingham Hotel.—\$1 to \$2 per day, one to a room; \$2 to \$3 per day with bath.

Metropolitan Hotel.—\$1 to \$2 without bath; \$1.50 to \$2 with bath. Jefferson Hotel.—\$2.50 and \$3.50 per day, American plan, one to a room with bath; \$6 per day, American plan, two to a room with bath. Colonial Hotel.—\$1 to \$2 without bath; \$1.50 to \$2 with bath.

V. E. Turner, President.

C. S. Butler, Secretary, Buffalo, N. Y.

# North Carolina Dental Society.

The thirty-fifth annual meeting of the North Carolina Dental Society will be held at Asheville, N. C., June 23 to 26, 1909. The Battery Park Hotel will be headquarters. All ethical practitioners are cordially invited to attend.

Winston-Salem, N. C.

J. C. Watkins, Secretary.

# Southern California Dental Association.

The twelfth annual convention of the Southern California Dental Association will convene June 28, 29 and 30, 1909, at the College of Dentistry, University of Southern California, Fifth and Wall Streets, Los Angeles, Cal.

CHAS. E. RICE, Secretary.



# Kentucky State Dental Association.

The thirty-ninth annual convention of the Kentucky State Dental Association will convene at Crab Orchard Springs, Ky., May 17, 18 and 19, 1909.

We anticipate a most interesting and profitable meeting at this most popular central Kentucky resort. A cordial invitation is extended to all ethical members of the profession.

W. M. RANDALL, Secretary.

Brook and Broadway, Louisville, Ky.

# Uirginia State Dental Association.

The fortieth annual session of the Virginia State Dental Association will be held at the Mecklenburg, Chase City, Va., July 21, 22, 23, 1909.

Every effort is being made to make this the most interesting and successful meeting of our society. Men of national reputation will give clinics and read papers. All ethical practitioners are invited to attend.

### Missouri State Dental Association.

The forty-fourth annual meeting of the Missouri State Dental Association will convene at Kansas City, Mo., May 26, 27 and 28, 1909. A good, live programme is in course of preparation.

Respectfully,

J. F. Wallace, Corresponding Secretary.

- C. C. Allen, Chairman, Kansas City,
- F. G. Worthly, Kansas City.
- D. D. Campbell, Kansas City,

Executive Committee.

# Louisiana State Dental Society.

The thirty-first annual meeting of the Louisiana State Dental Society will be held at the St. Charles Hotel, in New Orleans, La., on Wednesday, Thursday and Friday, April 28, 29 and 30, 1909.

An interesting programme is already assured.

A most cordial invitation is extended to all ethical members of the profession to be present and participate in the meeting.

Dr. H. J. Feltus, President,

Baton Rouge, La.

Dr. J. P. Wahl, Chairman Executive Com., 3634 Magazine Street, New Orleans, La.

Dr. A. L. Plough, Cor. Secretary, New Orleans, La.



# Southwestern Michigan Dental Society.

The Southwestern Michigan Dental Society will hold their next annual meeting April 13 and 14 at Kalamazoo, Mich.

## Cexas State Dental Association.

The annual meeting of this association will be held at Waco, June 10, 11, 12 next. To manufacturers, exhibitors and visitors we call attention to the circuit formed by Missouri (meeting May 26, 27, 28), Oklahoma (meeting June 3, 4, 5), and Texas as above. By this arrangement it is expected to secure a larger number of prominent men and valuable exhibits than heretofore. The profession is cordially invited to attend. Dallas, Tex.

I. G. Fife. Secretary.

#### Cennessee State Dental Association.

The forty-fourth annual meeting of the Tennessee State Dental Association will be held in Memphis, Tenn., May 25, 26, 27, 1909. This meeting promises to be one of the most interesting gathering of any within the history of the association. Ample space will be provided for exhibitors and clinicians. A cordial invitation is extended to all reputable members of the profession to attend and take part in the proceedings.

DE SAN KINNEY, Correspond Secretary.

Nashville, Tenn.

# Illinois State Board of Dental Examiners.

The next regular meeting of the Illinois State Board of Dental Examiners, for the examination of applicants for a license to practice dentistry in the State of Illinois, will be held in Chicago at the Chicago College of Dental Surgery, southeast corner Wood and Harrison Streets, beginning Thursday, June 10, 1909, at 9 a. m.

Applicants must be in possession of the following requirements in order to be eligible to take the examination: (1) Any person who has been engaged in the actual, legal and lawful practice of dentistry or dental surgery in some other State or country for five consecutive years just prior to application; or (2) is a graduate and has a diploma from an accredited high school, or a certificate signed by a State superintendent of public instruction, or his duly authorized deputy or equivalent officer, acting within his proper or legal jurisdiction showing that the applicant has a preliminary education equal to that obtained in an accredited high school; and is a graduate and has a diploma from the faculty of a repu-



table dental or medical college, school, or dental or medical department of a reputable university, and possess the necessary qualifications prescribed by the board.

Candidates will be furnished with proper blanks and such other information as is necessary on application to the secretary. All applications must be filed with the secretary five days prior to the date of examination. The examination fee is twenty (\$20) dollars, with the additional fee of five (\$5) dollars for a license.

Address all communications to

J. G. Reid, Secretary.

1204 Trude Bldg., Chicago, Ill.

## Cexas Board of Dental Examiners.

The regular meeting of the Texas State Board of Dental Examiners will be held in Waco, Texas, beginning 9 a. m. Monday, June 14, 1909. Diplomas not recognized or registered, examinations required of all. No interchange of license with any other State. No special examination to practitioners already in practice. Applications accompanied by a fee of \$25 should be in the secretary's hands June 10th. For further information address

Bush Jones, Secretary.

Dallas, Texas.

# St. Louis Society of Dental Science.

The St. Louis Society of Dental Science, at the December meeting, elected the following officers; W. E. Brown, president; Clarence O. Simpson, vice-president; G. E. Hourn, secretary; C. S. Dunham, treasurer; J. B. Winkelmeyer, curator. Executive Committee, E. E. Haverstick, G. H. Westhoff, E. J. Lenzen, Burton Lee Thorpe, J. B. Winkelmeyer. Advisory Council, G. A. Bowman, A. H. Fuller, D. O. M. LeCron, Richard Summa, W. L. Whipple, H. F. Cassel, E. P. Dameron.

G. E. HOURN, Secretary.

725 Metropolitan Building, St. Louis, Mo.

# Monmouth County Dental Society.

The regular monthly meeting of the Monmouth County Dental Society was held at the Globe Hotel, Red Bank, on Wednesday evening, January 6; after the usual banquet a paper on "Nitrous Oxid" was read by Dr. R. W. Jewett, of Red Bank; also a demonstration in gold leaf heating was given by Mr. Frank Chadwick, of Red Bank. The following



members were present: Drs. R. W. Jewett, H. D. Van Dorn and H. W. Williams, of Red Bank; Drs. Owen Woolley, F. C. Carr, of Long Branch; Drs. T. H. Pratt, A. S. Burton, W. I. Thompson, Fred Burdge, H. S. Taylor and Geo. L. D. Thompkins, of Asbury Park.

HERBERT E. WILLIAMS.

# Davenport District Dental Society.

At a meeting of the Davenport District Dental Society, held in Davenport, Iowa, January 23, 1909, the following officers were elected: President, C. R. McCandless, Davenport; vice-president, A. A. Peterson, Muscatine; secretary, O. E. Greene, Clinton; treasurer, J. T. Martin, Muscatine. Delegate to Executive Council, R. C. Baker, Davenport.

A clinical programme was held in the afternoon at the office of Dr. R. C. Baker, followed in the evening by a joint meeting with the Rock Island County Dental Society in Rock Island, Ill. After a sumptuous banquet in the beautiful rooms of the Rock Island Club, the president introduced Dr. A. D. Black, president of the Illinois State Dental Society, who read a paper, illustrated with stereopticon, on "Progress of Decay and Preparation of Cavities." Dr. Black also spoke of the classification of dental literature and the post-graduate work being done by the Illinois State Society.

The next meeting of the Davenport District Dental Society will be held in Muscatine, April 6.

Clinton, Iowa.

O. E. Greene, Secretary.

# Cake Erie Dental Association.

The forty-sixth annual meeting of the Lake Erie Dental Association will be held at Hotel Rider, Cambridge Springs, Pa., on May 18, 19 and 20, 1909. All reputable dentists are cordially invited to share in the meeting.

Warren, Pa.

V. H. McAlpin, Secretary.

# Washington University Dental Department Alumni Clinic.

The annual alumni clinic of Washington University Dental Department will be held at the College Building, 27th and Locust Streets, on March 29 and 30. We hope to make this one of the largest alumni meetings ever held, and also hope that the attendance will be in proportion. Any sacrifice that you will be compelled to make to attend this meeting will be repaid by the benefit you receive therefrom.

J. H. KENNERLY, Dean.

Beaumont and Locust Streets, St. Louis, Mo.



## Alumni Association of the St. Louis Dental College.

The Alumni Association of the St. Louis Dental College (formerly Marion Sims) will hold their annual clinic at the College Building, Grand Avenue and Caroline Street, between May 20 and 25, 1909. An excellent programme is being prepared. Special attention is being given to the Clinical programme. All ethical members of the profession are cordially invited. Programme and exact date will be published in later issues of this journal.

Dr. John B. O'Brien, Chairman Publicity Com. 5761 A Etzel Avenue, St. Louis, Mo. Dr. S. T. McMillin, President.

# Alumni Association of the College of Dentistry, State University of Iowa.

The sixth annual meeting of the Alumni Association of the College of Dentistry of the State University of Iowa will be held March 9 and 10, 1909, in the Dental College Building at Iowa City, Iowa. A profitable meeting is assured with good clinics and papers. All ethical practitioners are requested to reserve the dates and attend.

LEON L. BRANSON, Secretary.

Iowa City, Iowa.

# Fox River Valley Dental Society of Wisconsin.

The mid-winter clinic of the Fox River Dental Society of Wisconsin will be held at Fon du Lac, Wis., one day, Tuesday, March 9, 1909. All ethical practitioners are invited. Address inquiries to

GEO. A. STRATTON, Secretary.

Oshkosh, Wis.

## Reading, Dental Society.

The eleventh annual meeting of the Reading Dental Society was held in Reading, at which time the following officers were elected for the ensuing year: President, William Meter; vice-president, P. S. Mogel; secretary, Geo. S. Schlegel; treasurer, John T. Bair. Executive Committee, O. J. Specker, C. B. Grin; Geo. F. De Long, chairman.

GEO. S. Schlegel, Secretary.



# Psi Omega Dental Fraternity.

The annual banquet of the Psi Omega Dental Fraternity in New York City, will be held on Friday evening, March 19, at the Hotel Manhattan, 42d Street and Madison Avenue. Any brothers from out of town who may be visiting the city at that time are cordially invited to be present.

For information and particulars address the secretary of the Banquet Committee,

J. L. Peters.

1517 Hone Avenue, Westchester, N. Y.

# Institute of Dental Pedagogics.

The following officers were elected during the sixteenth annual meeting of the Institute of Dental Pedagogics, held in the Planters Hotel, St. Louis, December 30, 1908, to January 1, 1909; President, Ellison Hillyer, Brooklyn, N. Y.; vice-president, John Q. Byram, Indiana, Ind.; secretary-treasurer, B. E. Lischer, St. Louis, Mo.; member Executive Board, D. H. Squire, Buffalo, N. Y.; member Commission on Text Books, H. E. Friesell, Pittsburgh, Pa. Next place of meeting, Toronto, Canada, December 28 to 30, 1909.

B. E. LISCHER, Secy.-Treas.

# Eastern Dental Society.

A new dental society was organized on Monday evening, December 21, 1908, known as the Eastern Dental Society. Its meeting rooms are at 310-12 Catharine Street, Philadelphia. The officers are: Dr. S. W. Santz, president; Dr. D. Feldman, vice-president; Dr. B. S. Krisher, secretary; Dr. I. Fisher, treasurer; Dr. L. Jacobs, librarian. Trustees: Drs. Chaflin, Saltman, Halpern, E. N. Englander and L. Englander. Present good standing membership numbers forty.

B. S. Krisher, Secretary.